

PORTLANDS FLOOD PROTECTION

Port Lands Flood Protection Stakeholder Advisory Committee Meeting #3

August 21, 2018



WATERFRONToronto

Full Vision Plan



Toronto
Inner
Harbour

Don River

Promontory
Park

Tully Blvd

Cherry St

Old Cherry St

Keating Channel

Villiers St

Villiers Island
Precinct

Centre St

Commissioners St

River Valley
Park

Polson St East

Polson
Precinct

South River
Precinct

Villiers
Park

Don Rail Yard

Lake Shore Boulevard East

McCleary
District

Don
Roadway

Media
City

Basin St

Don
Greenway

Ship Channel



Funded Project Areas



What are we building?

- A** Cherry Street Stormwater and Lakefilling
- B** Polson Slip Naturalization
- C** Flood Protection - River Valley
- D** Don Greenway (Spillway & Wetland)
- E** Don Roadway Valley Wall Feature
- F** East Harbour Flood Protection Land Form
- G** Sediment and Debris Management Area
- H** Flow Control Weirs
- I** Eastern Avenue Flood Protection
- J** Villiers Island Grading
- K** Keating Channel Modifications
- L** Promontory Park South
- M** River Park
- N** Lake Shore Road and Rail Bridge Modifications
- O** Cherry Street Bridge North
- P** Cherry Street Bridge South
- Q** Commissioners Street Bridge
- R** Old Cherry Street Bridge Demolition
- S** Site Wide Municipal Infrastructure
- T** Don Roadway
- U** Hydro One Integration
- V** Commissioners Street
- W** Cherry Street Re-alignment

-  Port Lands Flood Protection and Enabling Infrastructure Boundary
-  Earthworks/Flood Protection
-  Parks
-  Bridges & Structures
-  Roads and Municipal Infrastructure



Earthworks/Flood Protection

- A Cherry Street Stormwater and Lakefilling
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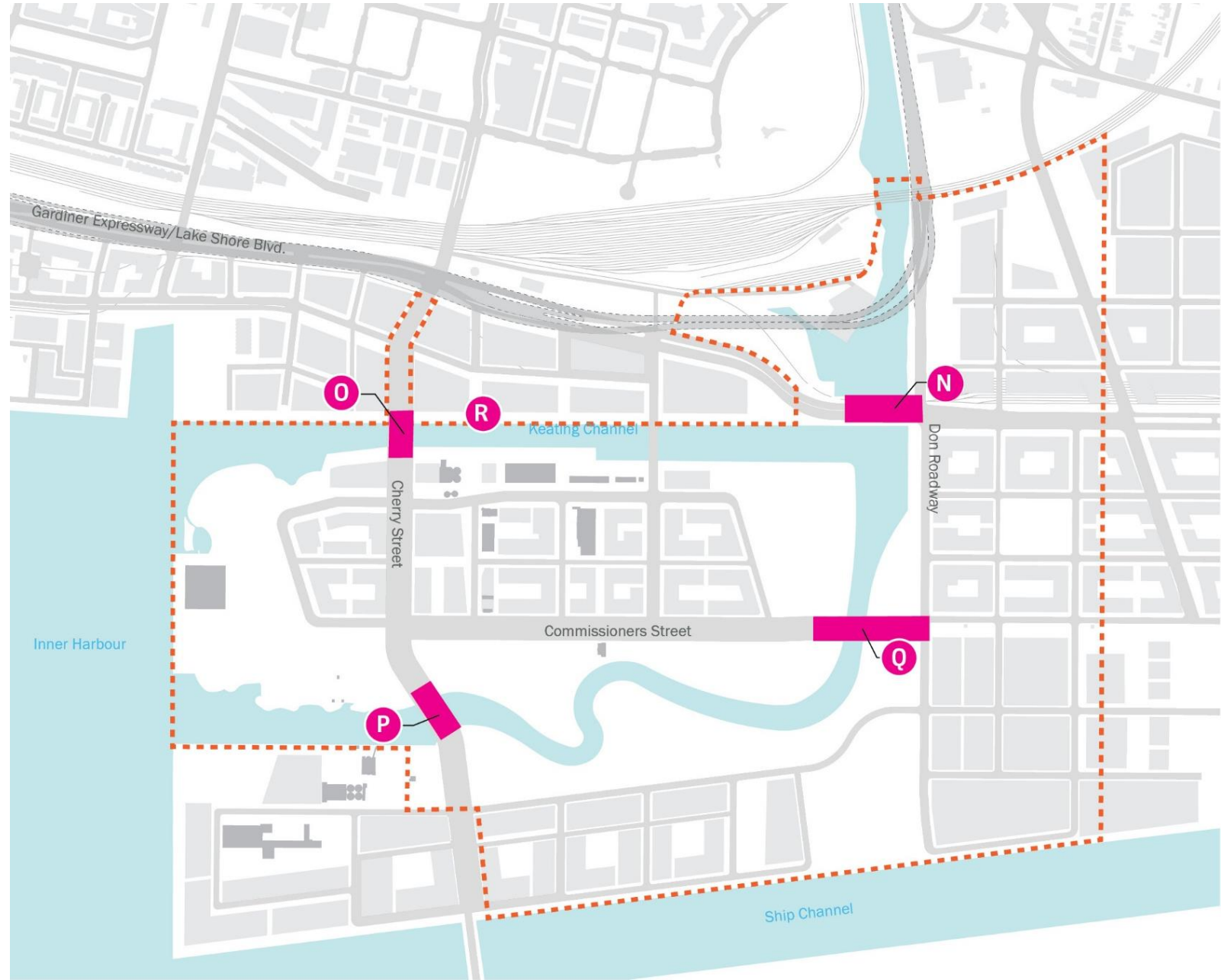
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Bridges and Structures

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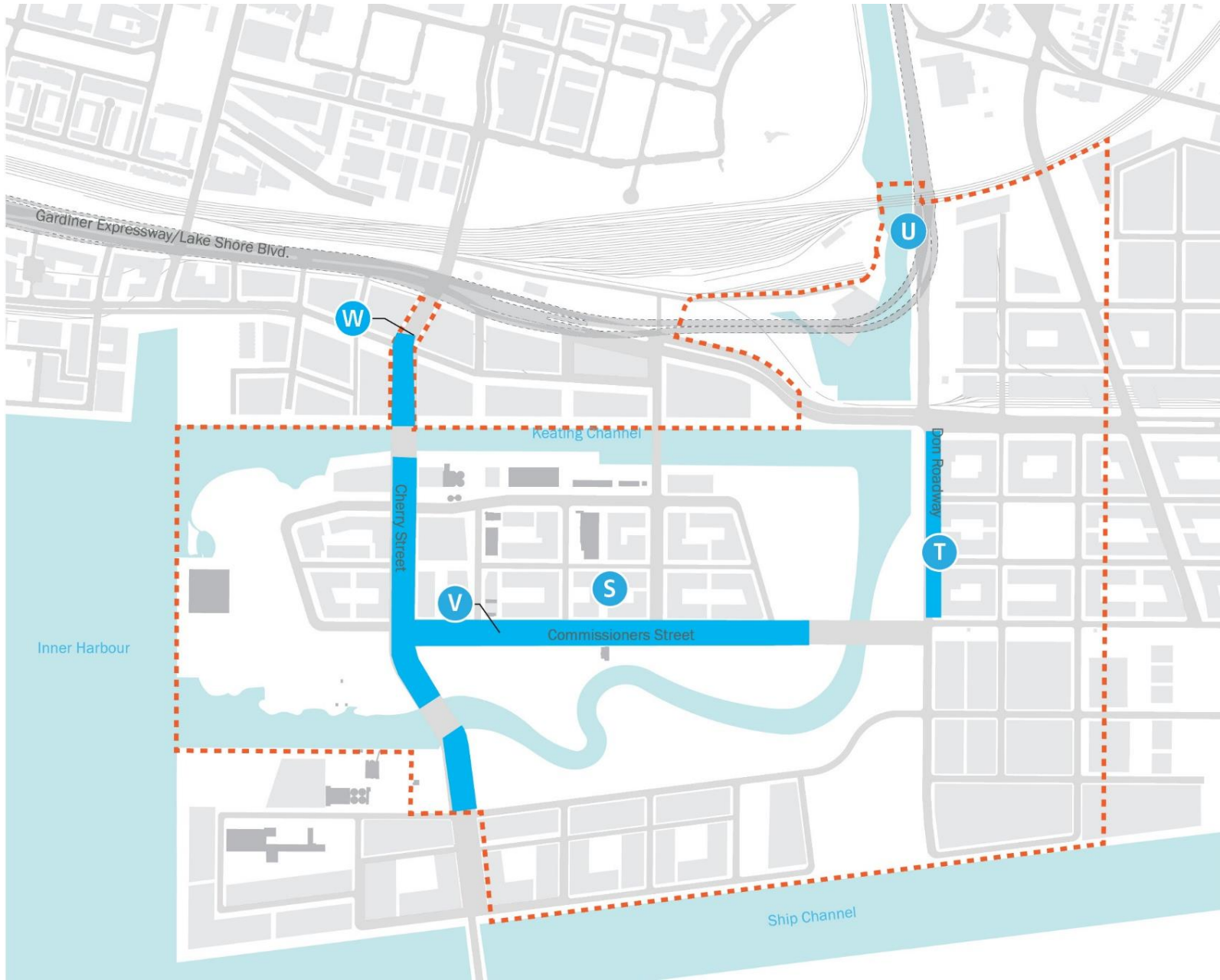
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Roads and Municipal Services

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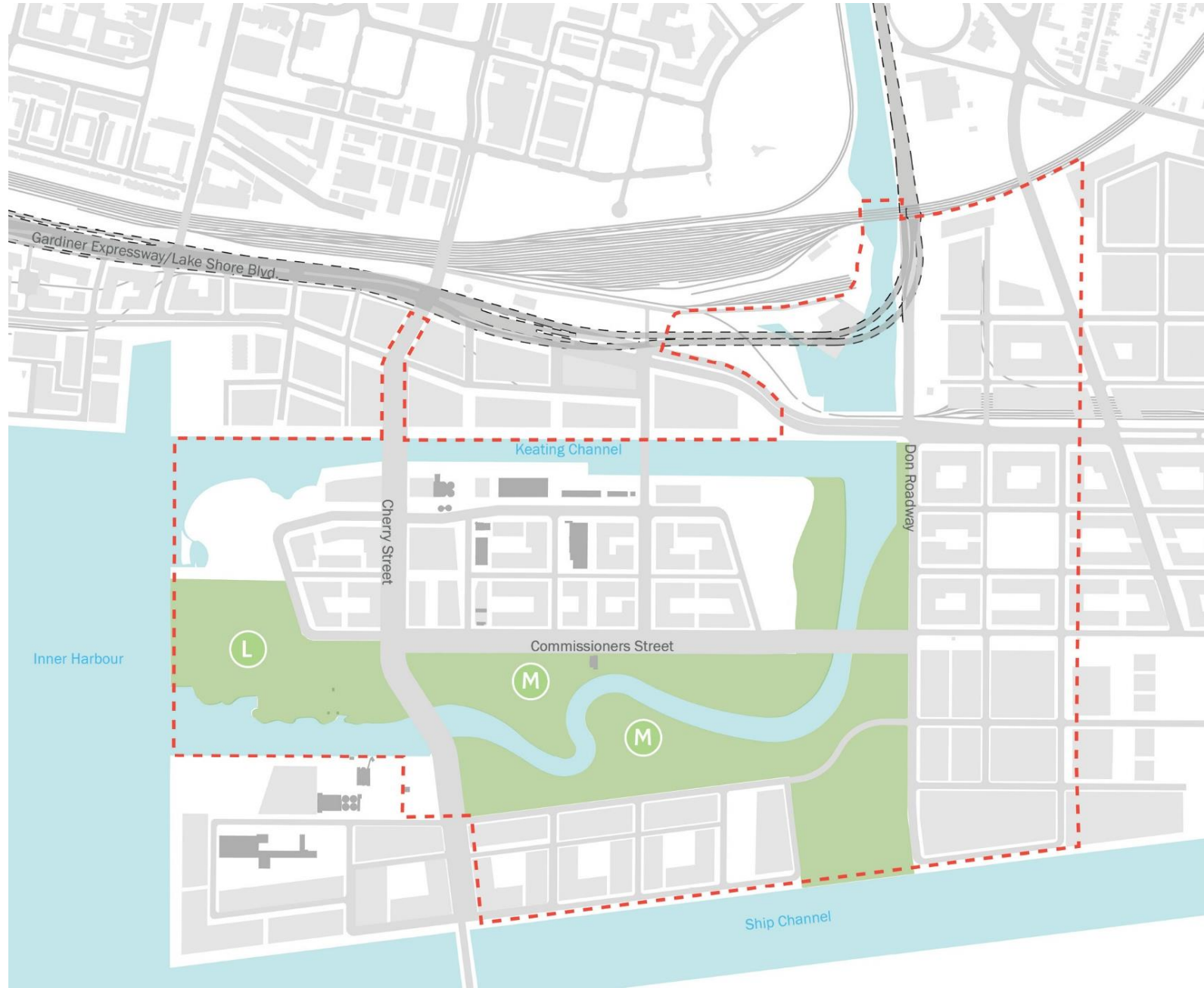
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Parks

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-  Port Lands Flood Protection and Enabling Infrastructure Boundary
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-  Parks
-  Bridges & Structures
-  Roads and Municipal Infrastructure



Where are we now?

Where are we now?

Feb 2018

Port Lands Flood
Protection (PLFP)
Community
consultation #1

July 2018

PLFP community
consultation #2

Spring 2019

Design for parks & river
is 60% complete

May 2018

Design river, parks,
roads & bridges is 30%
complete

Fall 2018

River excavation begins
Design for parks & river is
50% complete
Design complete on
Cherry Street & Cherry
Street Bridge North

Fall 2019

Design for
Commissioners Street is
complete

Key Design Milestones

May 2018

Design river, parks,
roads & bridges is 30%
complete

Fall 2018

River excavation begins

Design for parks & river
is 50% complete

Design complete on
Cherry Street & Cherry
Street Bridge North

Fall 2019

Design for Commissioners
Street is complete

August 2018

Design for roads is 60%
complete

Spring 2019

Design for parks is 60%
complete

Design for river is 90%
complete

Construction Progress









Port Lands Flood Protection & Enabling Infrastructure Heritage Framework

Prepared for Stakeholder Advisory Committee
21 August 2018

Michael Van Valkenburgh Associates, Inc.
Landscape Architects

Agenda

- Heritage Framework
- PLFPEI Project Boundaries
- Heritage Structures
 - MT-35
 - Atlas Crane
 - Fire Hall No. 30
 - Harbour Commissioner Storage Buildings

Heritage Framework

Site Evolution



Natural shoreline (-1780s)



Urbanization (1780s-1880s)



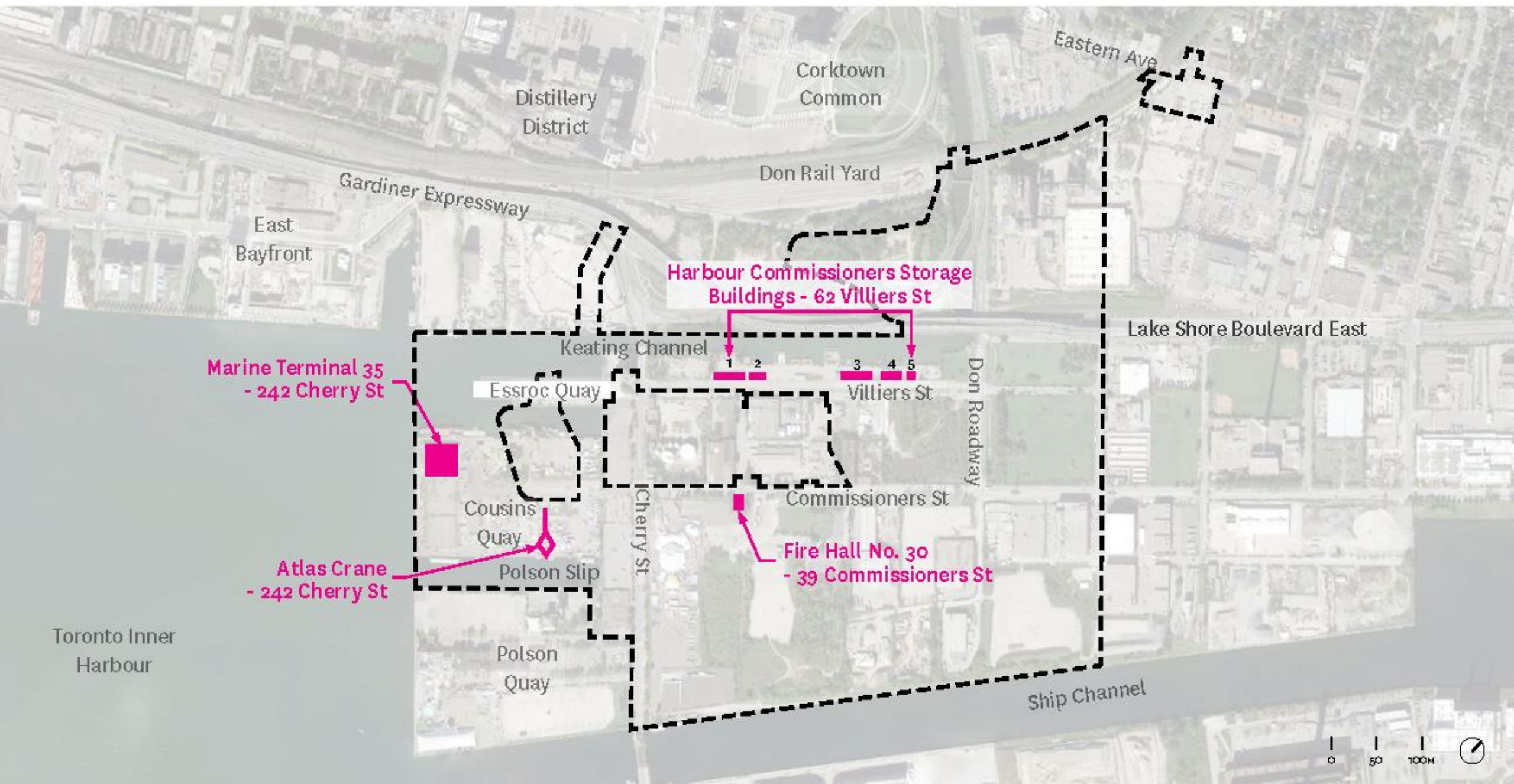
Landscape Changes + Industrial Ambitions (1880s-1960s)



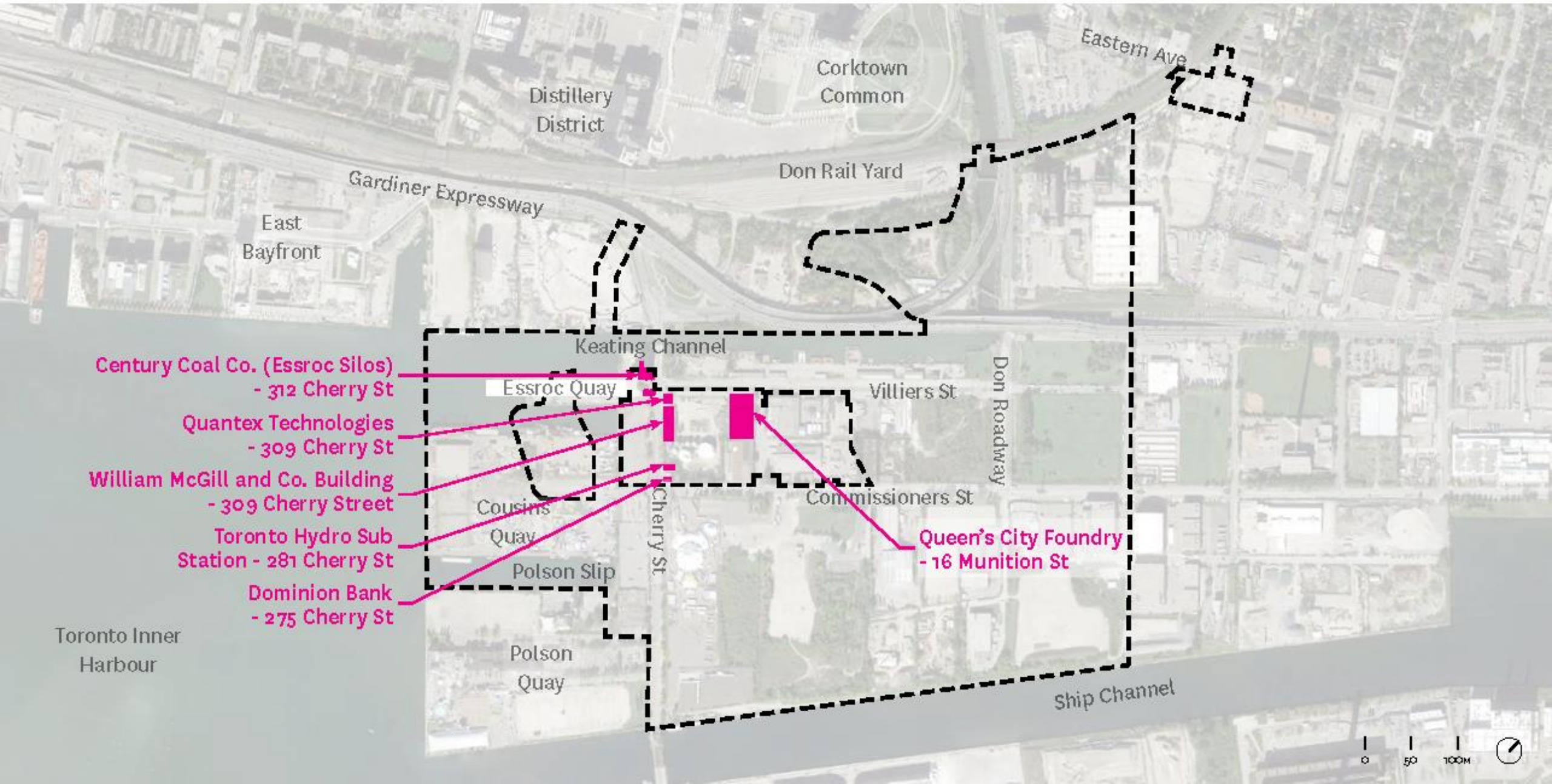
Deindustrialization + Urban Renewal (1960s-present)

PLFPEI Project Boundaries

Listed Heritage Structures - Inside PLFPEI Project Boundary



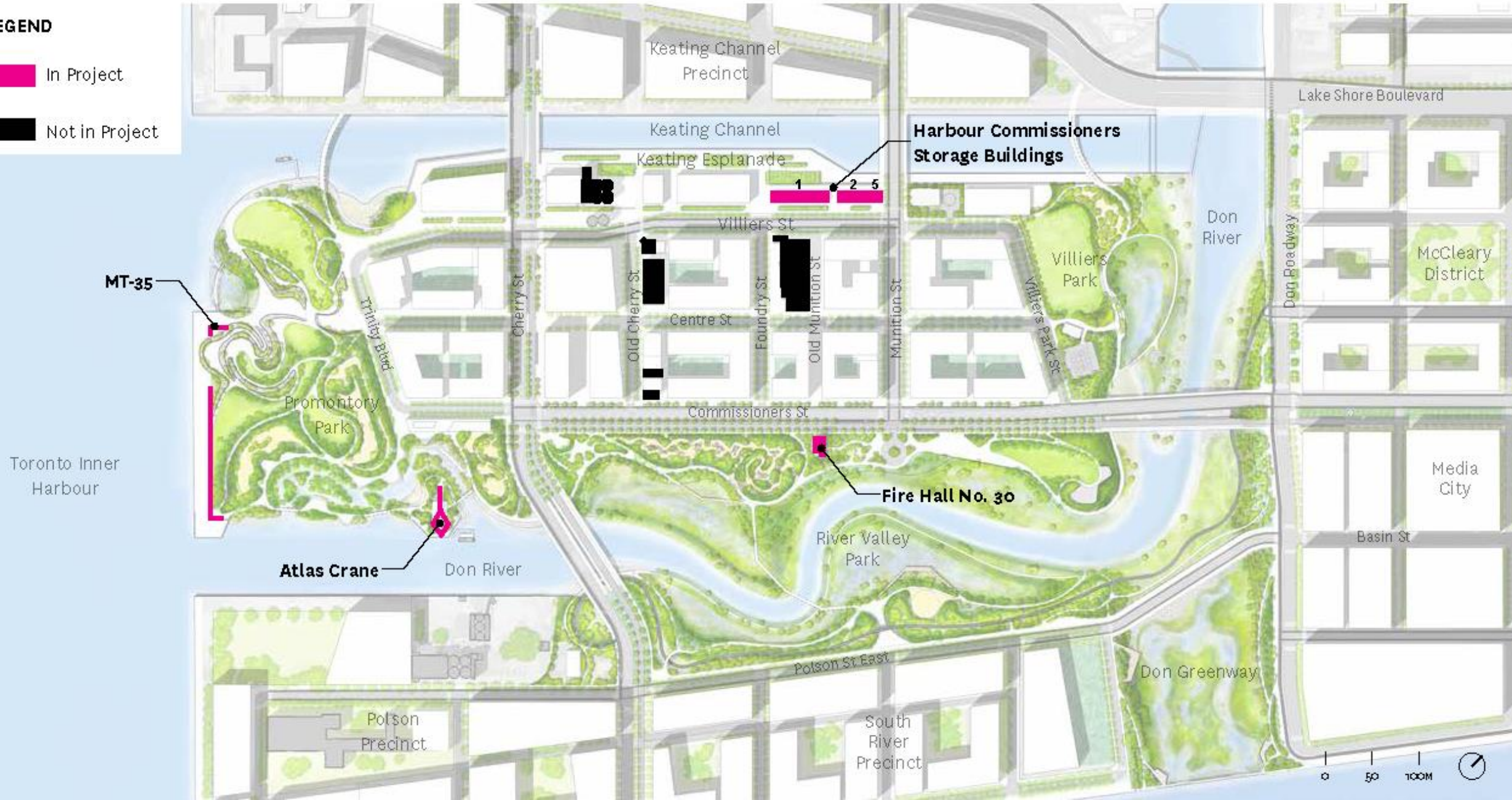
Villiers Island Precinct Heritage Structures - Outside PLFPEI Project Boundary



Current Design

LEGEND

- In Project
- Not in Project



PLFPEI Heritage Structures

- MT-35
- Atlas Crane
- Fire Hall No. 30
- Harbour Commissioners Storage Buildings
(Buildings 1, 2 & 5)

MT-35

242 Cherry Street

Current Conditions



Address:

242 Cherry Street

Date of Construction:

1962

HPS Status:

Listed on the City of Toronto Heritage Register

Observations:

- Subject to extensive fire damage and approximately two-thirds of the building footprint has been demolished
- CreateTO (formerly TPLC) Structural Evaluation Report has concluded that reuse of remaining building is not viable without extensive reconstruction work
- Design team studying possible options for commemoration

Design Considerations



West Corner Showing Building Sign

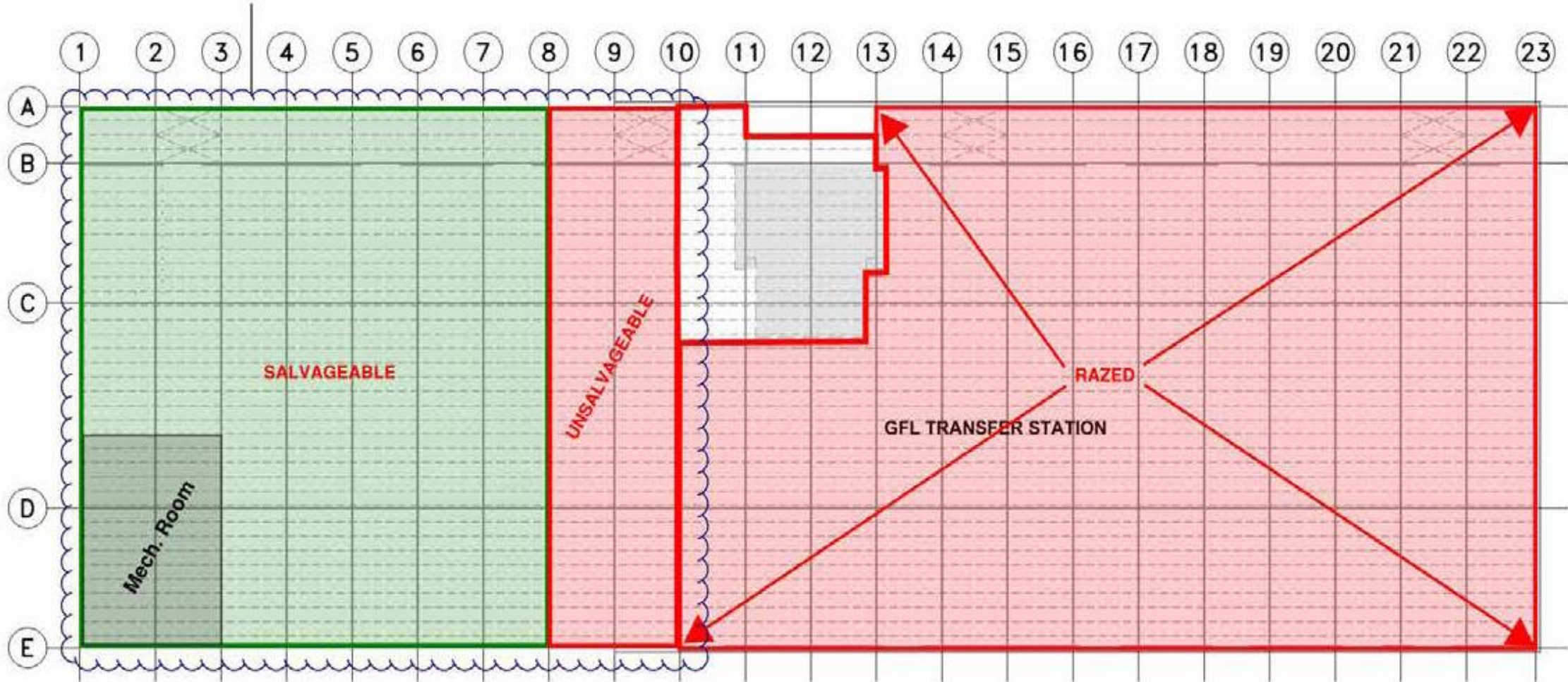
- Commemorative Strategies
- Scale
- Volume
- Promenade Edge





Interior Building Structure

TPLC's Preliminary Building Fire Damage Study - Ground Floor Plan

AREA FOR CURRENT RECOMMENDATIONS



Description	Area (sq.ft.)
 Salvageable	51,314
 Unsalvageable	14,228
Total	65,542



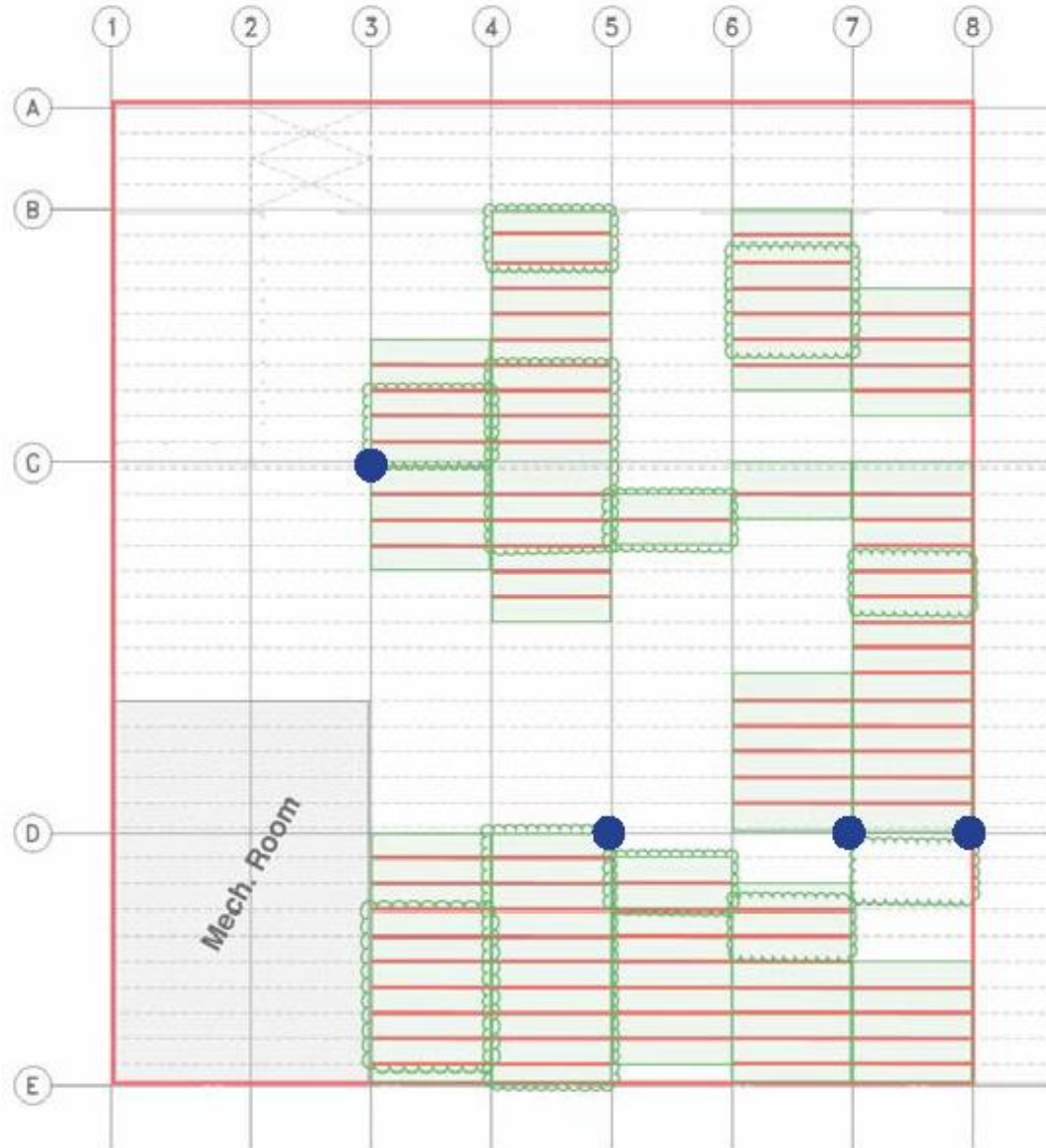
rjc Creative Thinking
Practical Results
Read Jones Christoffersen Ltd.
Engineers
rjc.ca

144 Front Street West, Suite 500
Toronto, ON M5J 2L7 Canada
tel 416-977-5335
fax 416-977-1427

Project Name
242 Cherry Street, Toronto, Ontario
PRELIMINARY BUILDING FIRE SALVAGE STUDY
Sketch Title
GROUND FLOOR PLAN

Dwg. Ref. .
Scale N.T.S.
Date June 19, 2011
Project No. TOR.113675
Sketch Number
SK1

Structural Damage Diagram



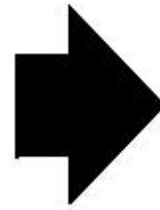
- Compromised Columns
- Purlins Requiring Replacement Due to Fire Damage
- Siporex Panels Requiring Replacement Due to Fire Damage
- Siporex Panels to be Replaced Due to Purlin Work

Description	Quantity
Damaged Purlins (lin. ft.)	2,610
Siporex Panel Replacement Area (sq.ft.)	26,554

Design Proposal - Public Consultation

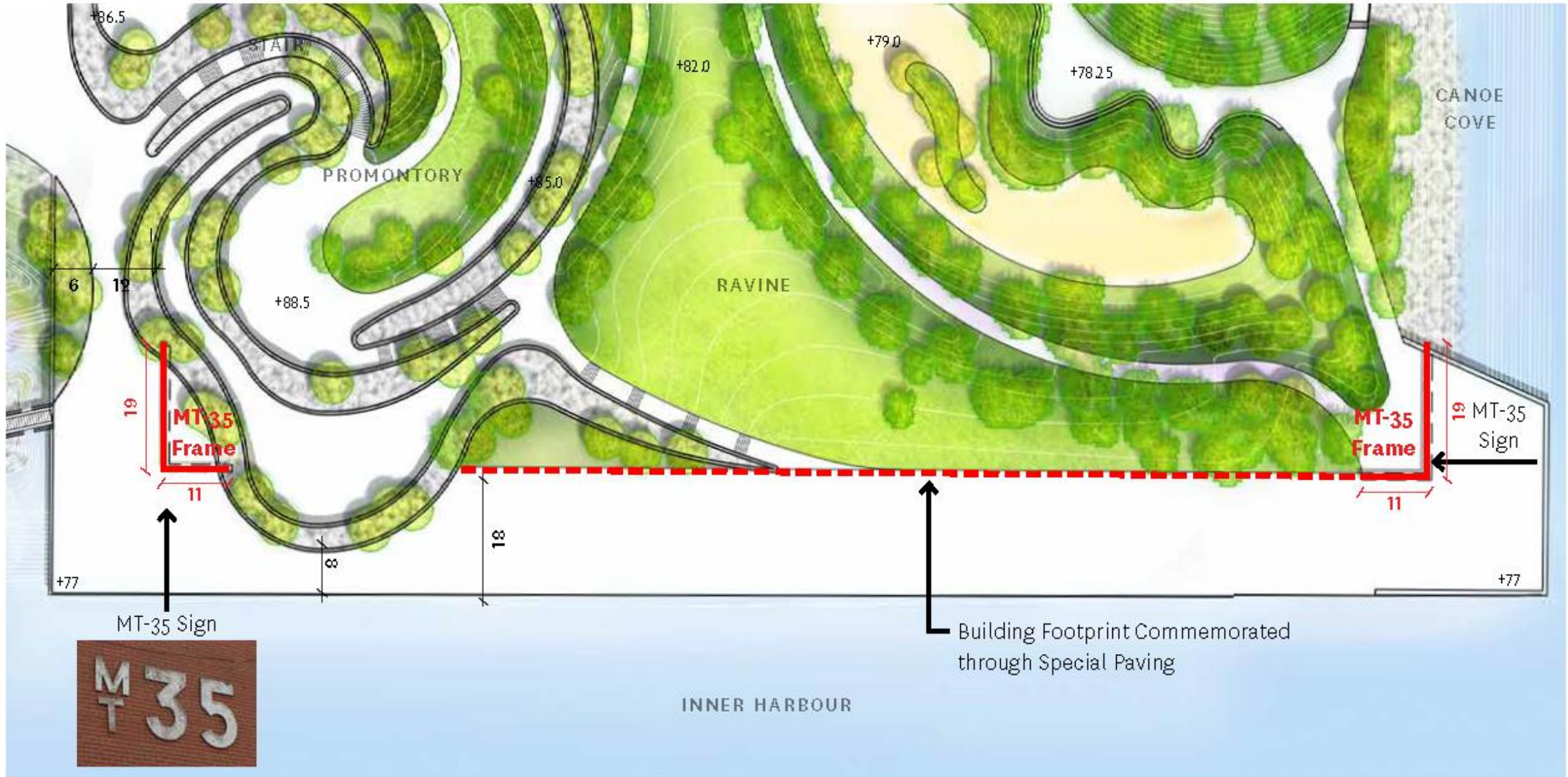


Existing Conditions

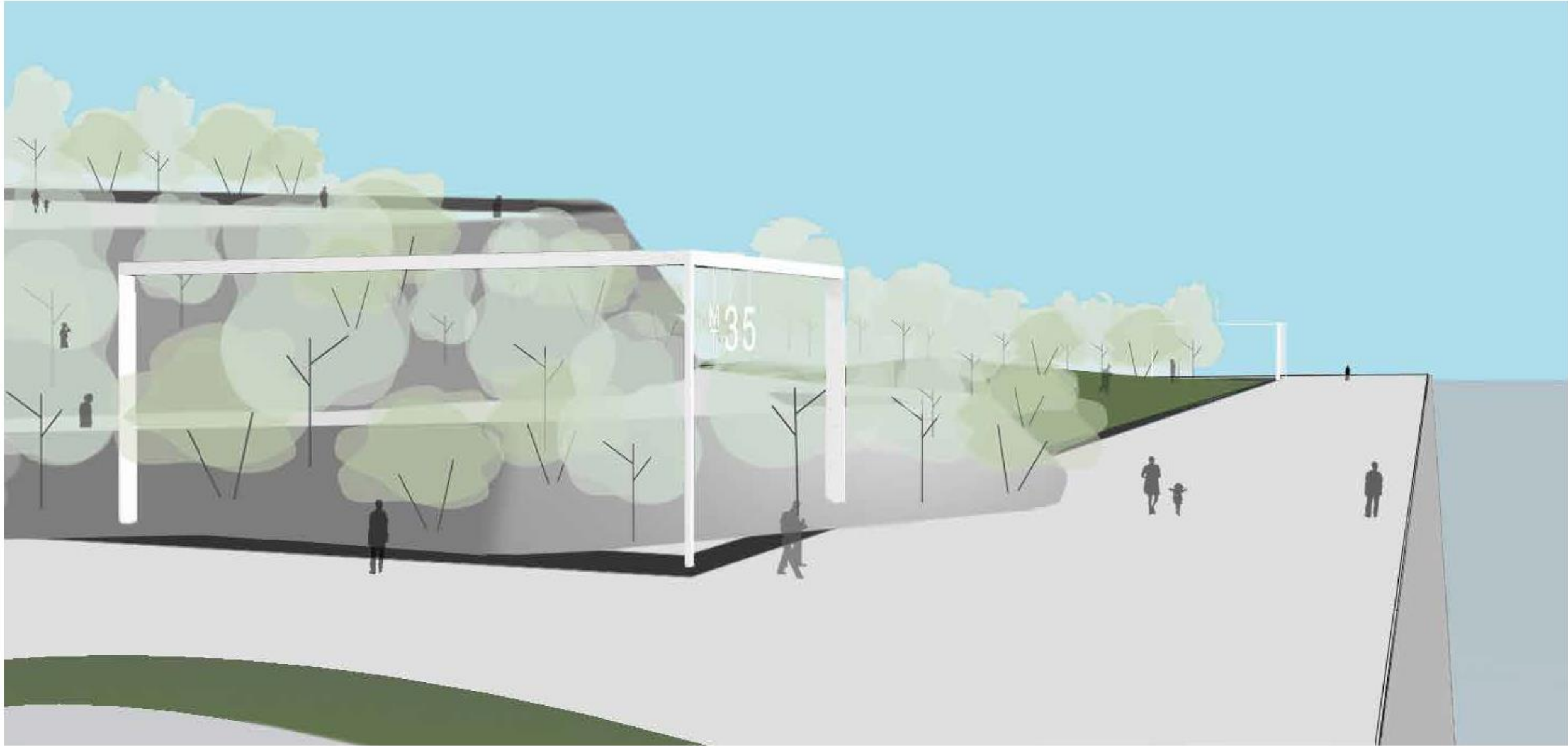


Proposed - 18 July 2018

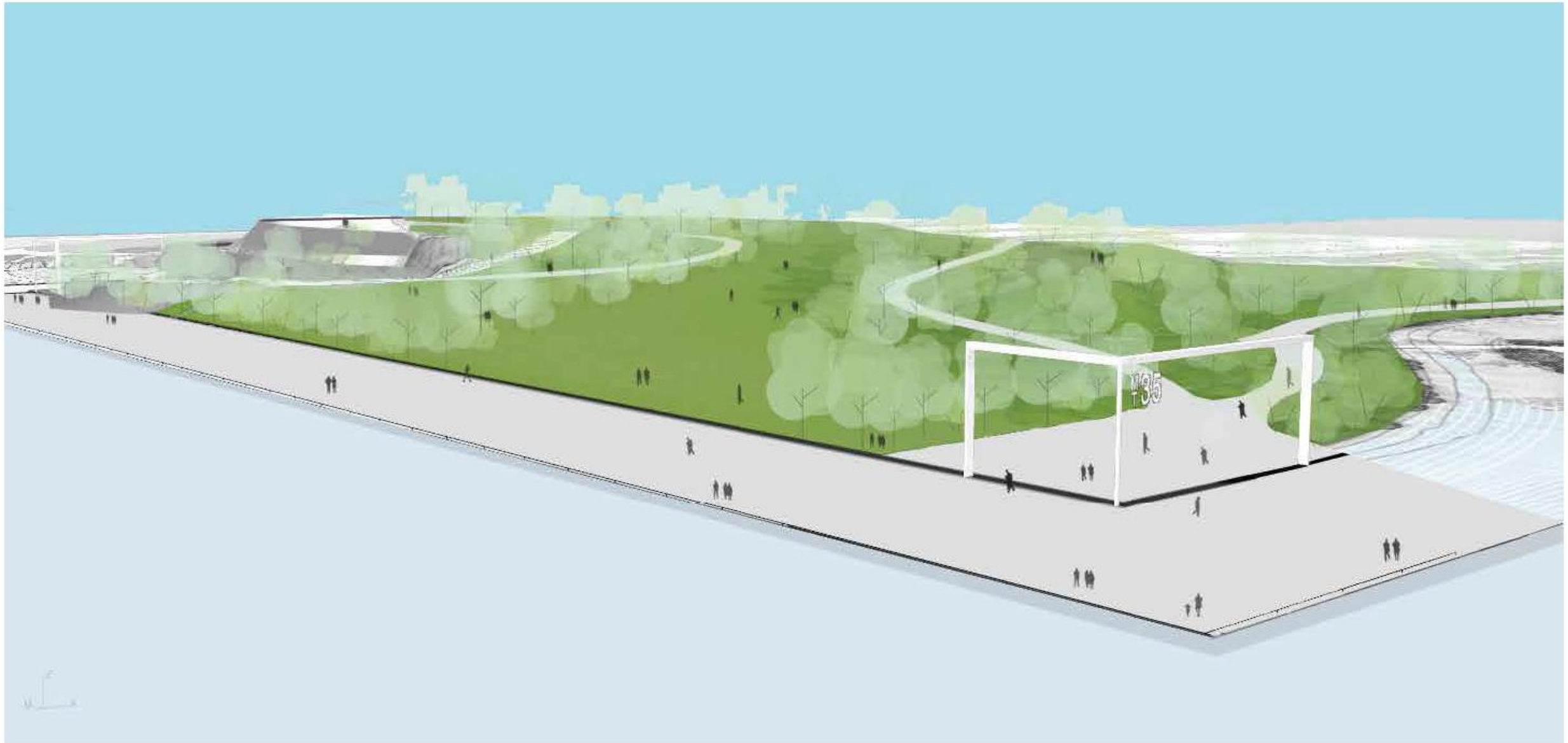
Commemmoration Approach



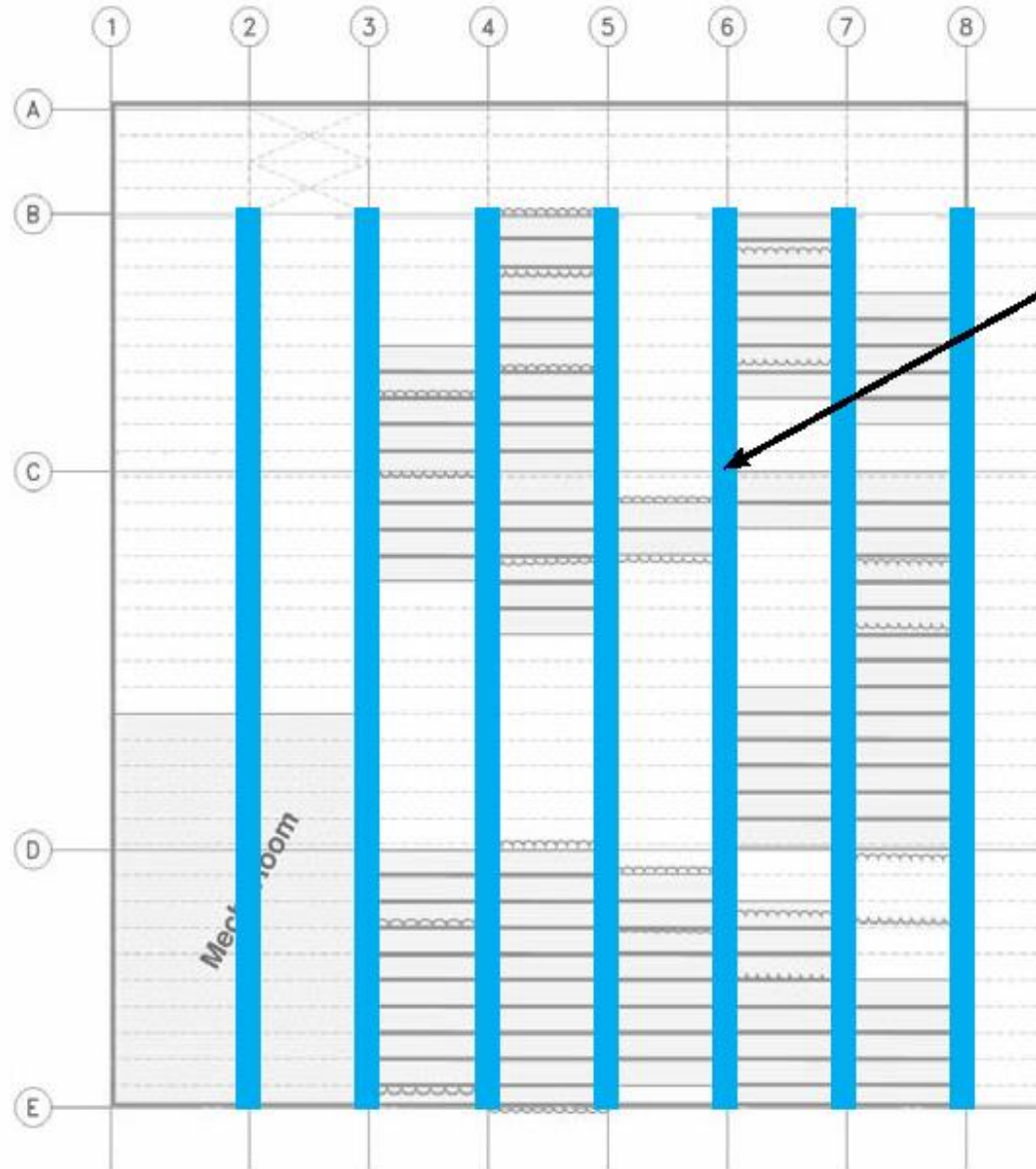
View from Northwest Corner



View from Southwest Corner



Material Reuse for Commemoration



Beams to be dismantled, stored and reused for park elements

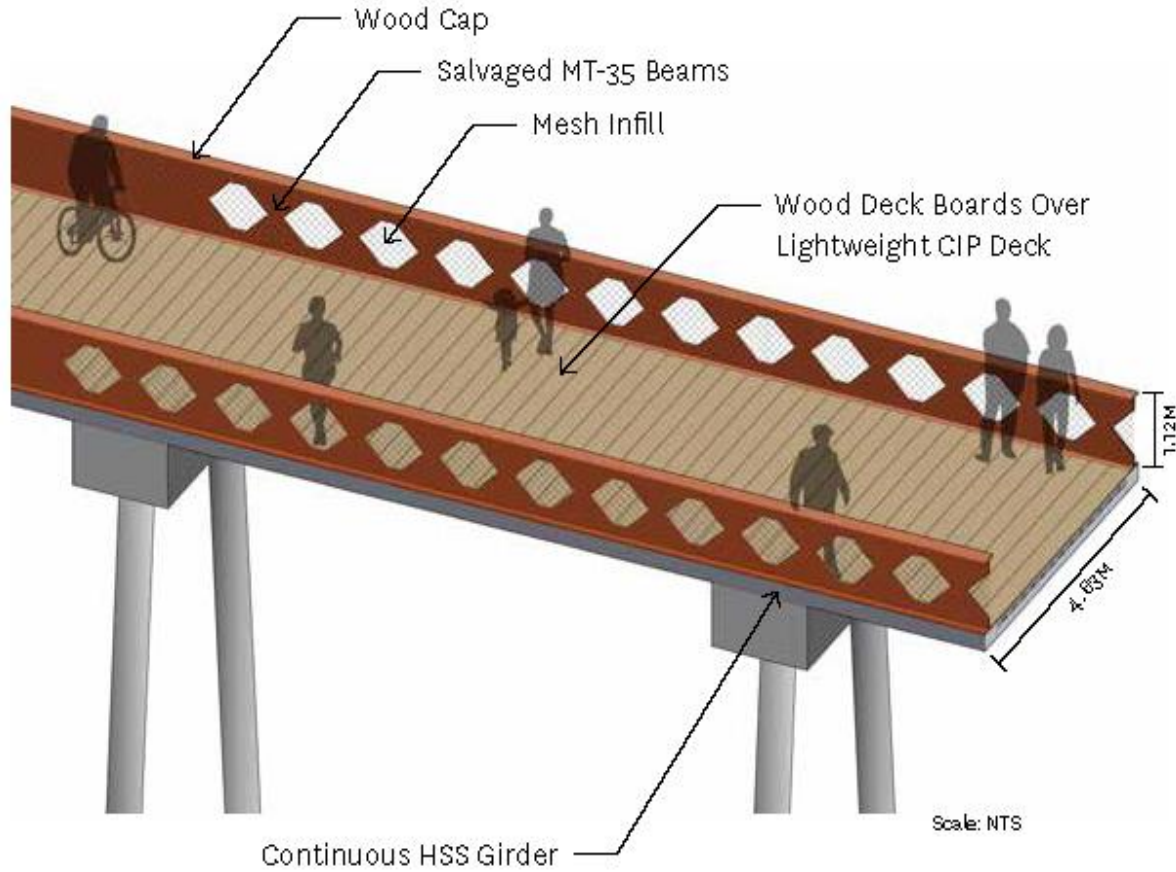
MT-35 Beam Reuse as Pedestrian Bridges in Promontory Park

LEGEND

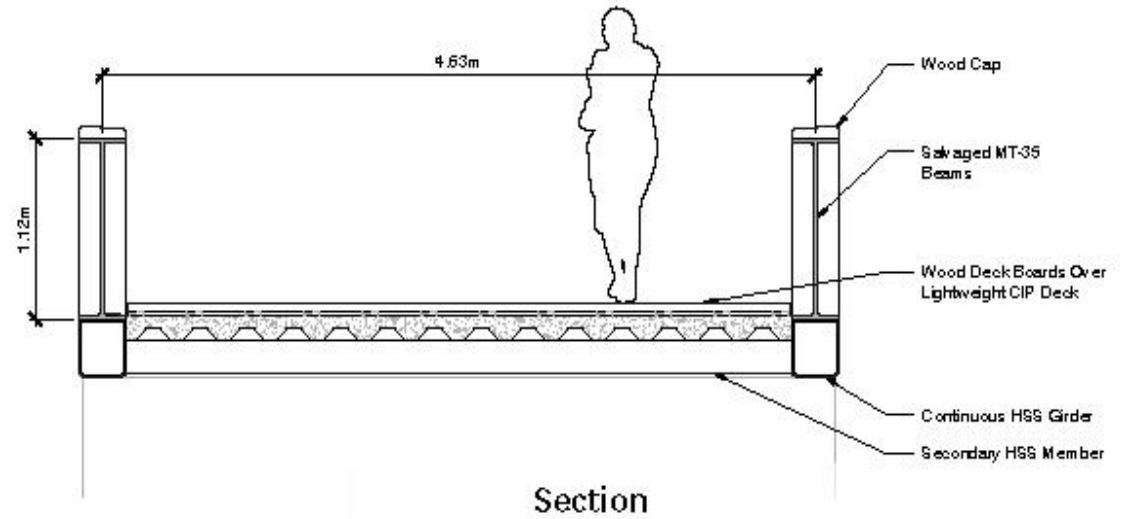
-  Potential Pedestrian Bridges Reusing MT-35 Beams



MT-35 Beam Reuse as Pedestrian Bridge Railings



Axonometric



Section



Precedent - Hillhouse Avenue Pedestrian Bridges (Yale University, New Haven, CT)



Atlas Crane
242 Cherry Street

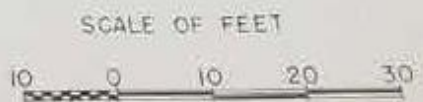
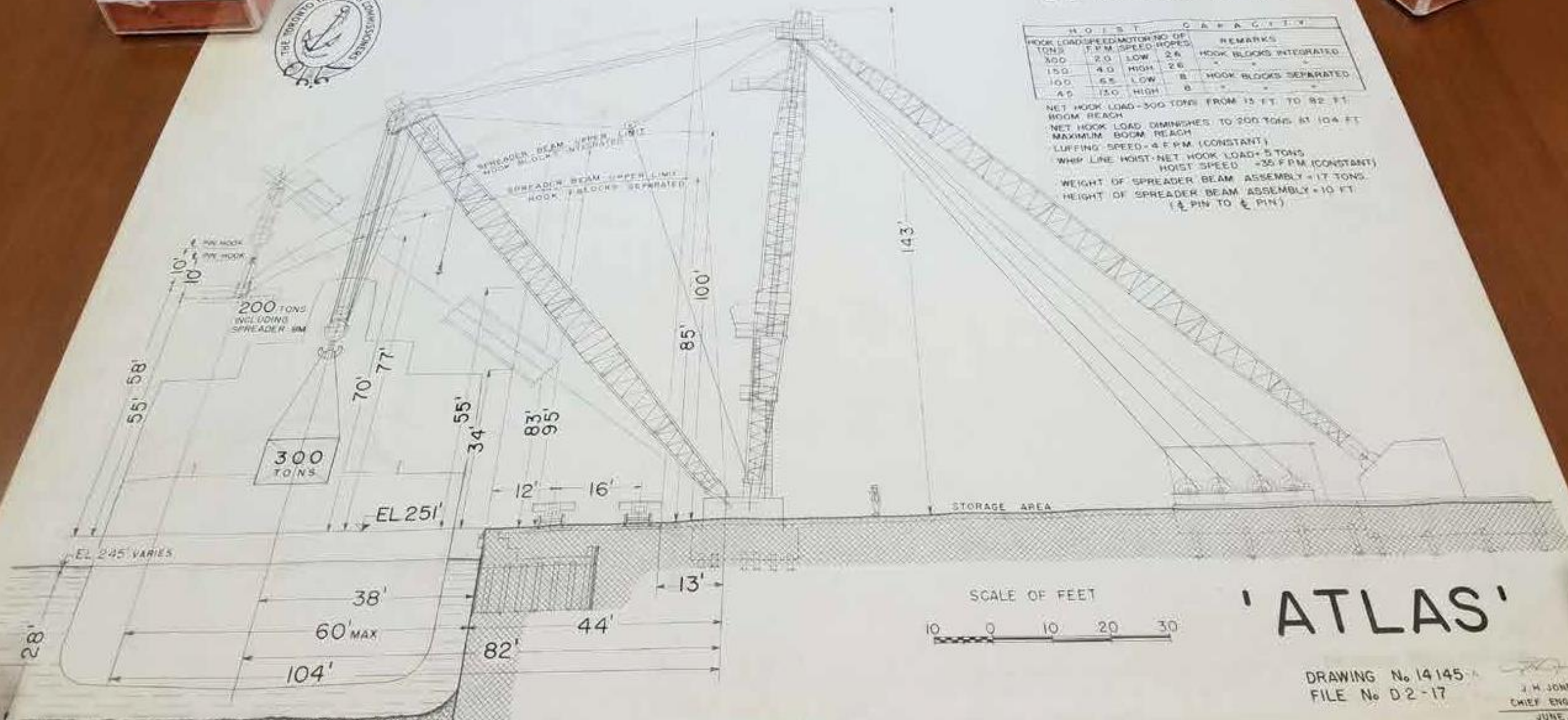
Atlas Crane As Built Drawings



300 TON HEAVY LIFT CRANE E. L. COUSINS DOCKS

HOIST		CAPACITY		REMARKS
HOOK LOAD TONS	SPEED F.P.M.	MOTOR NO. OF ROPES	NO. OF ROPES	
300	2.0	LOW	26	HOOK BLOCKS INTEGRATED
150	4.0	HIGH	26	"
100	6.5	LOW	8	HOOK BLOCKS SEPARATED
40	13.0	HIGH	8	"

NET HOOK LOAD - 300 TONS FROM 15 FT. TO 82 FT. BOOM REACH
 NET HOOK LOAD DIMINISHES TO 200 TONS AT 104 FT. MAXIMUM BOOM REACH
 LUFFING SPEED - 4 F.P.M. (CONSTANT)
 WHIP LINE HOIST - NET HOOK LOAD - 5 TONS
 HOIST SPEED - 35 F.P.M. (CONSTANT)
 WEIGHT OF SPREADER BEAM ASSEMBLY - 11 TONS
 HEIGHT OF SPREADER BEAM ASSEMBLY - 10 FT. (ø PIN TO ø PIN)



'ATLAS'

DRAWING No 14145
 FILE No D-2-17

J. H. JONES
 CHIEF ENGINEER
 JUNE, 1963

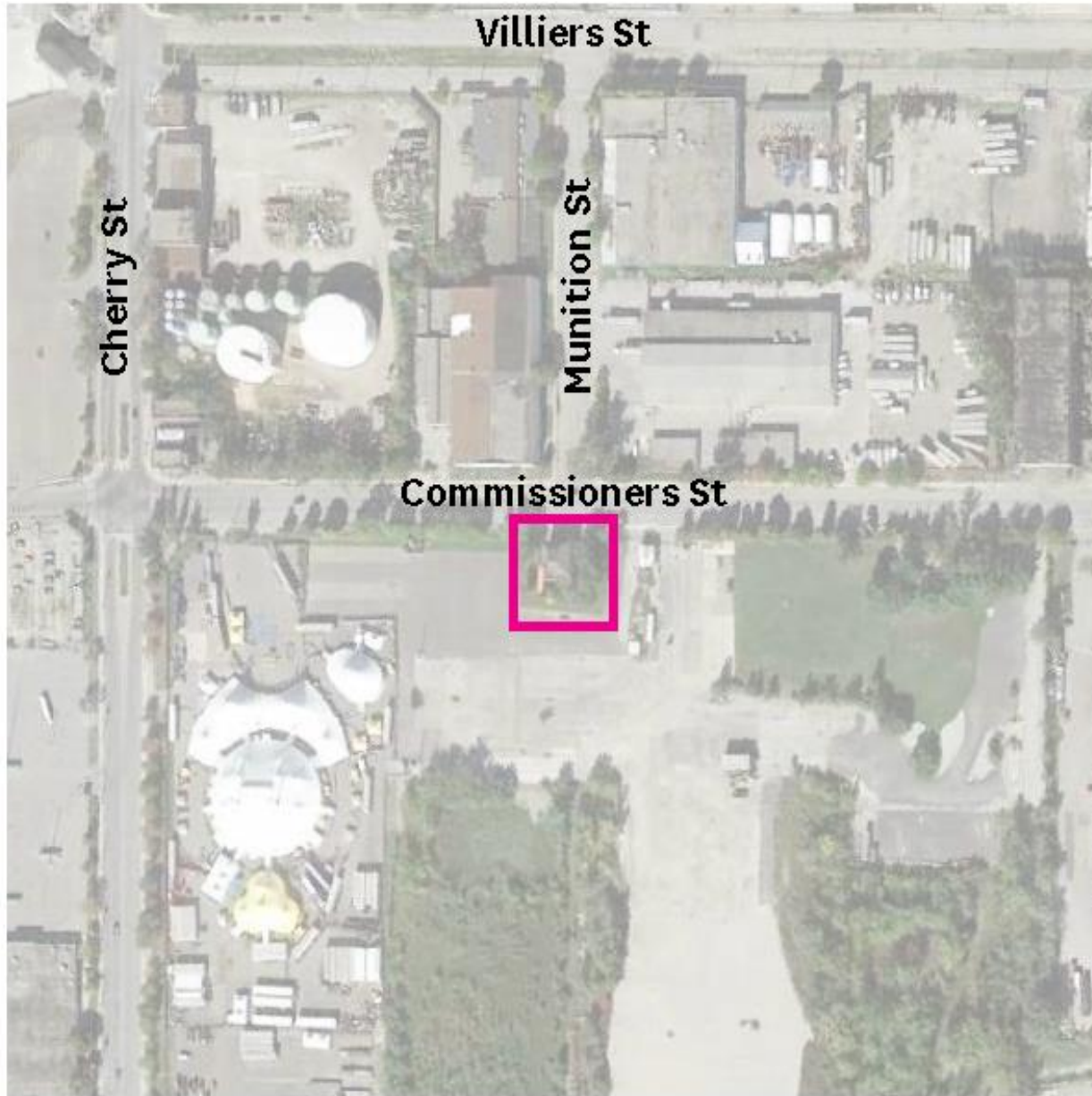
Design Considerations



- Current proposal as shown at July 2018 Community Consultation
- Investigation underway to determine feasibility of proposed design
- Considering cost and safety

Fire Hall No. 30
39 Commissioners Street

Current Conditions



Address:

39 Commissioners Street

Date of Construction:

1928

HPS Status:

Listed on the City of Toronto Heritage Register

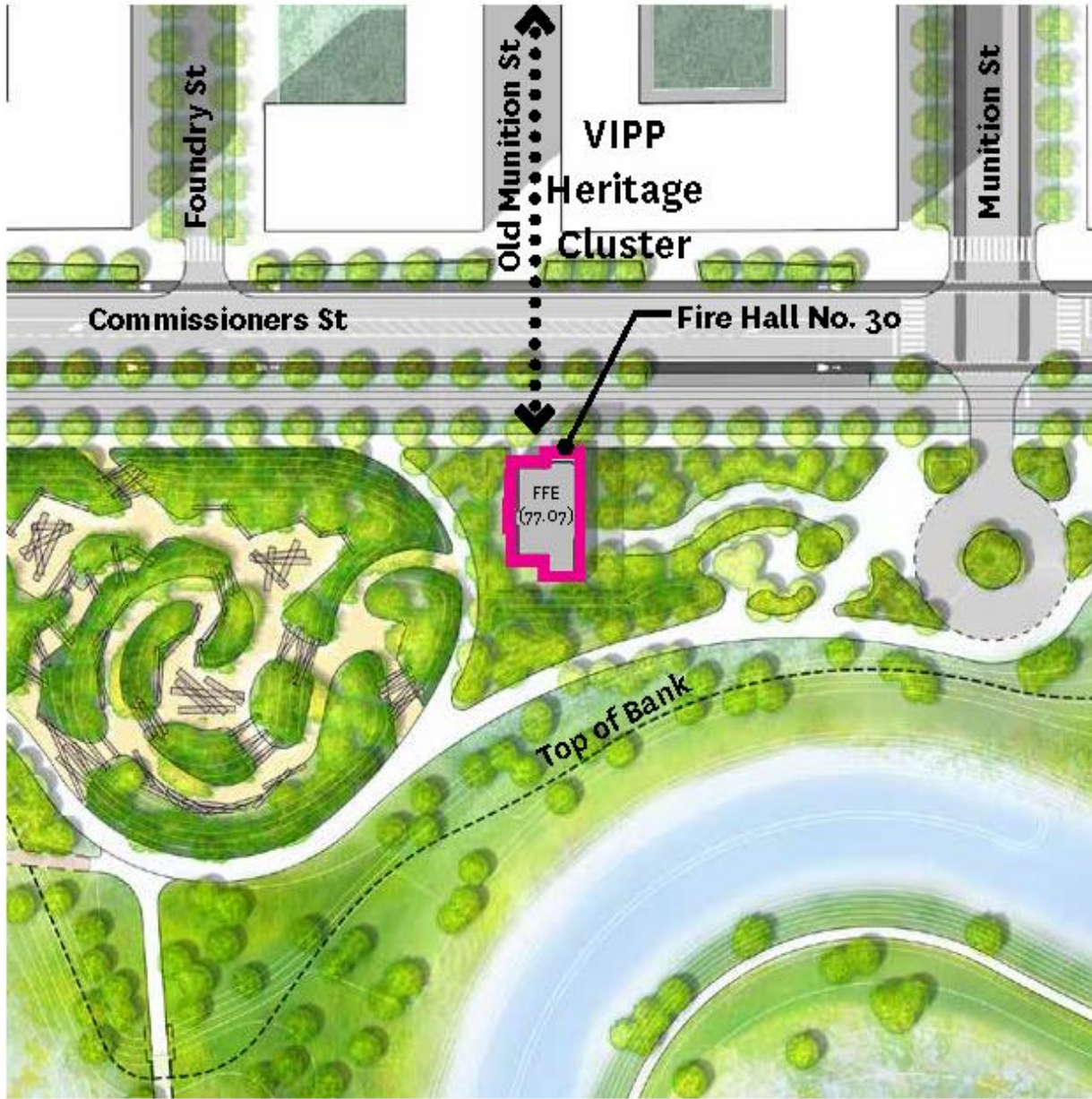
Observations:

- Requires additional investigations to determine existing conditions and future programmatic opportunities
- Relocation and grade change options are subject to design decisions related to flood protection measures
- Proposed to be renovated to accommodate park programming and barrier free access

Current Conditions

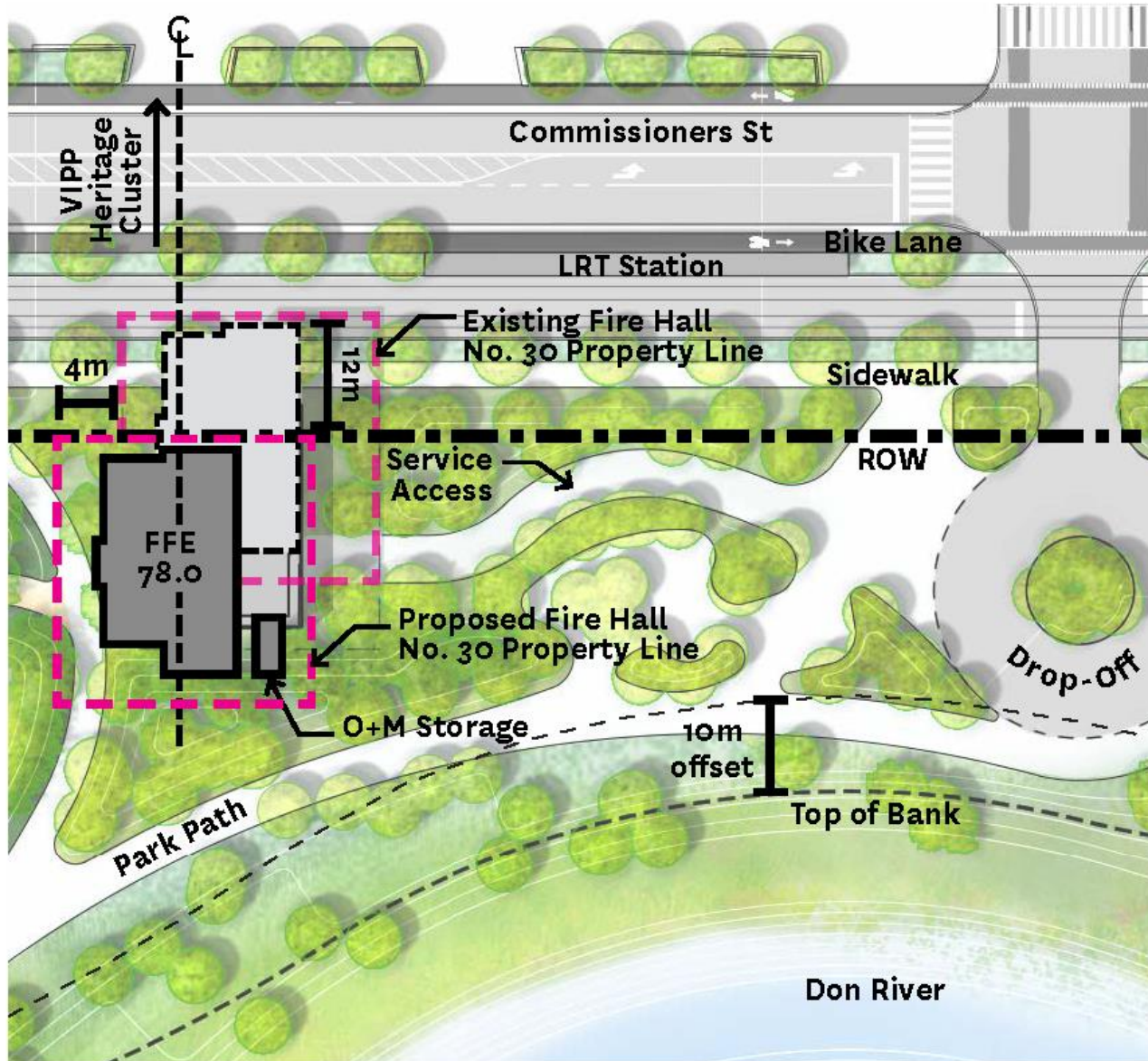


Design Considerations



- Flood Protection + Elevation
- 10m Top of Bank Offset
- R.O.W. Alignment
- LRT
- Access
- VIPP Heritage

Current Design: Relocate Out of R.O.W. + Raise for Flood Protection



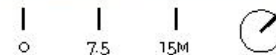
- Resolved Conflict with VVIP's LRT Alignment
- Complex Construction Phasing
- Alignment with VVIP's Heritage Cluster
- Access from New Munition St

Legend

--- Property Line

--- ROW

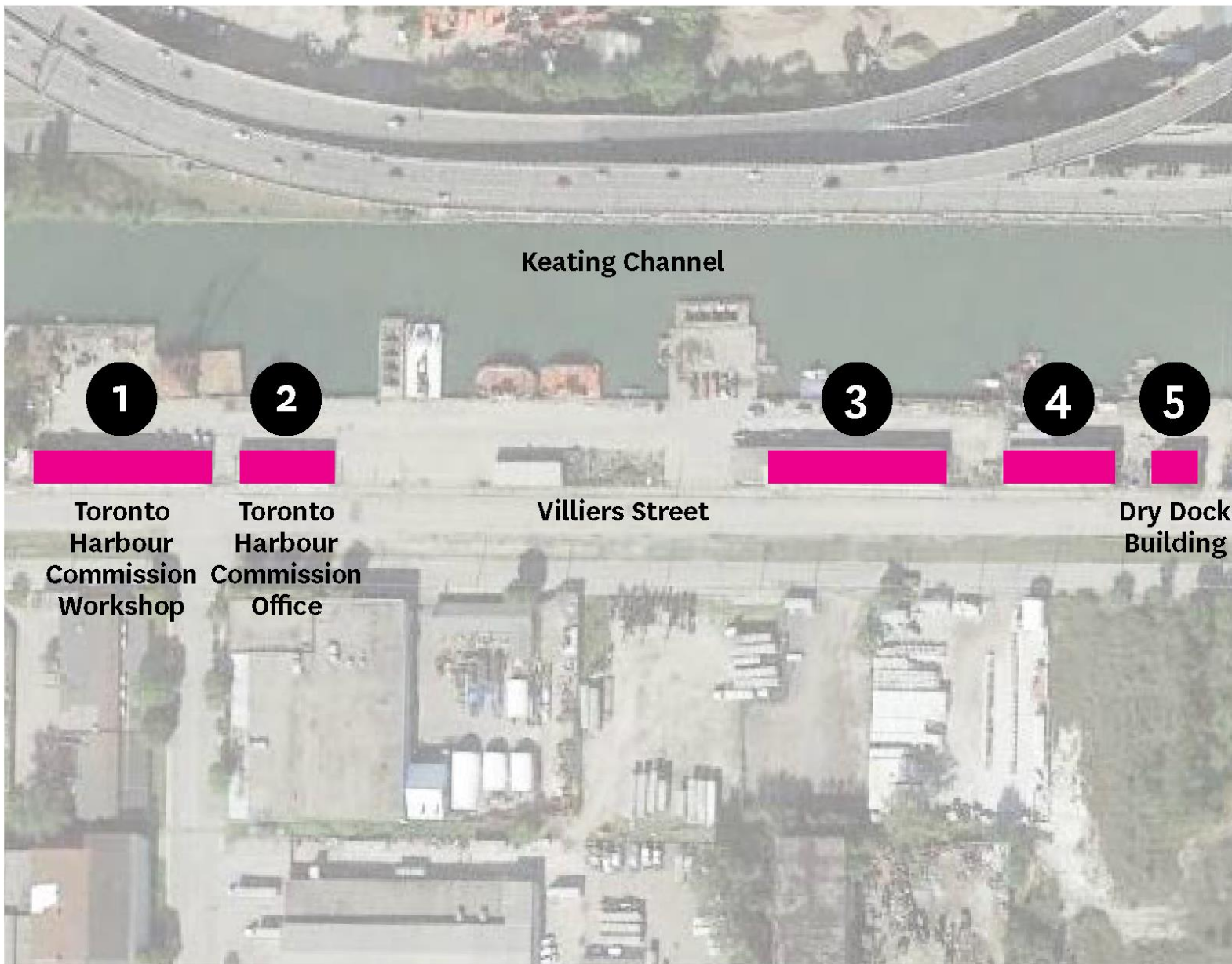
--- Top of Bank



Harbour Commissioners Storage Buildings

62 Villiers Street

Current Conditions



Address:

62 Villiers Street (5 buildings)

Date of Construction:

1916

HPS Status:

Listed on the City of Toronto Heritage Register

Observations:

- Grouping of 5 separate buildings in varying degrees of disrepair and architectural significance
- May be restored or reinterpreted in-situ
- Construction: presence of brick beneath current metal cladding and timber construction beneath the insulbrick

Current Conditions

1 Toronto Harbour Commission Workshop



2 Toronto Harbour Commission Office



Current Conditions

3



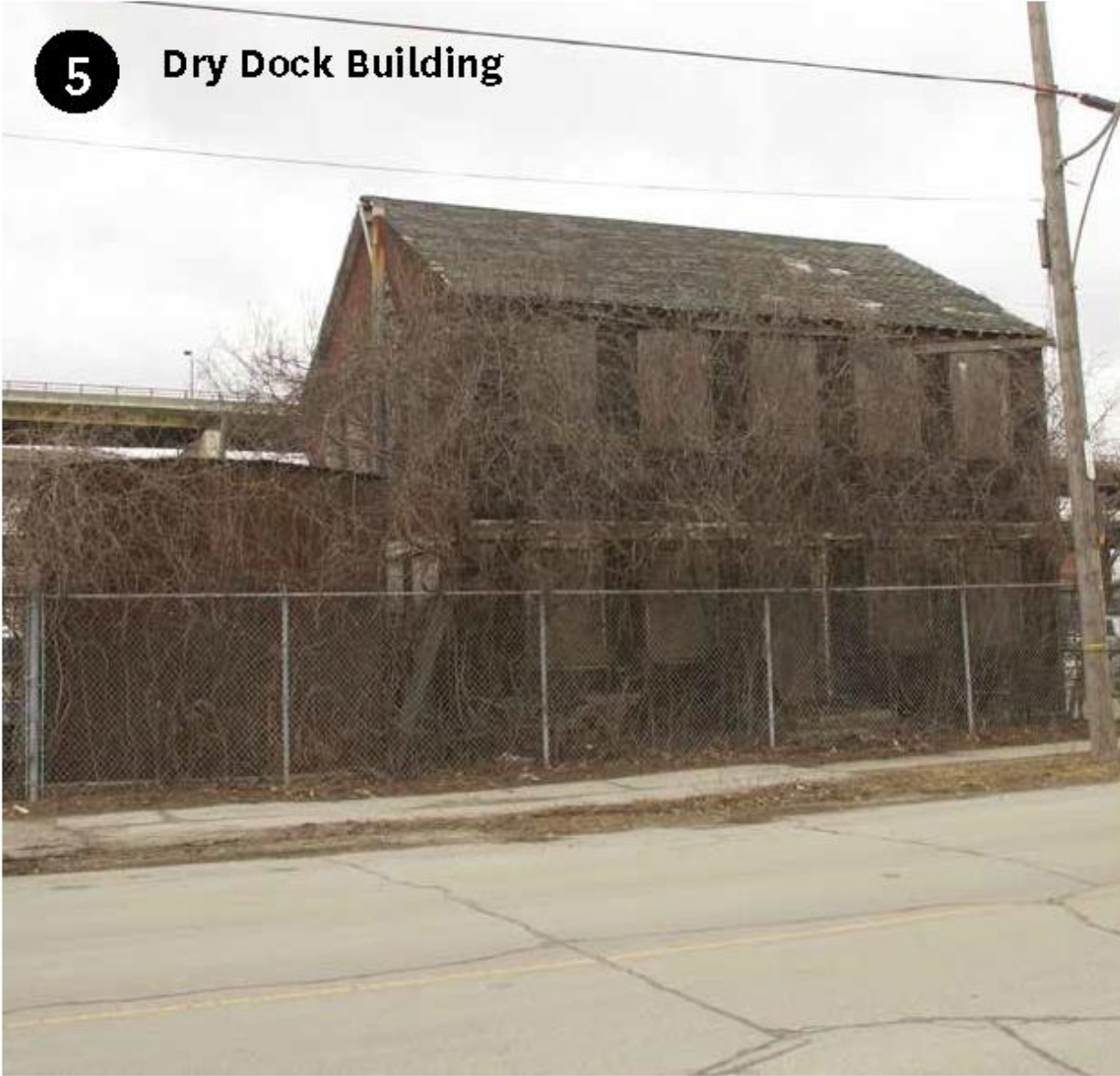
4



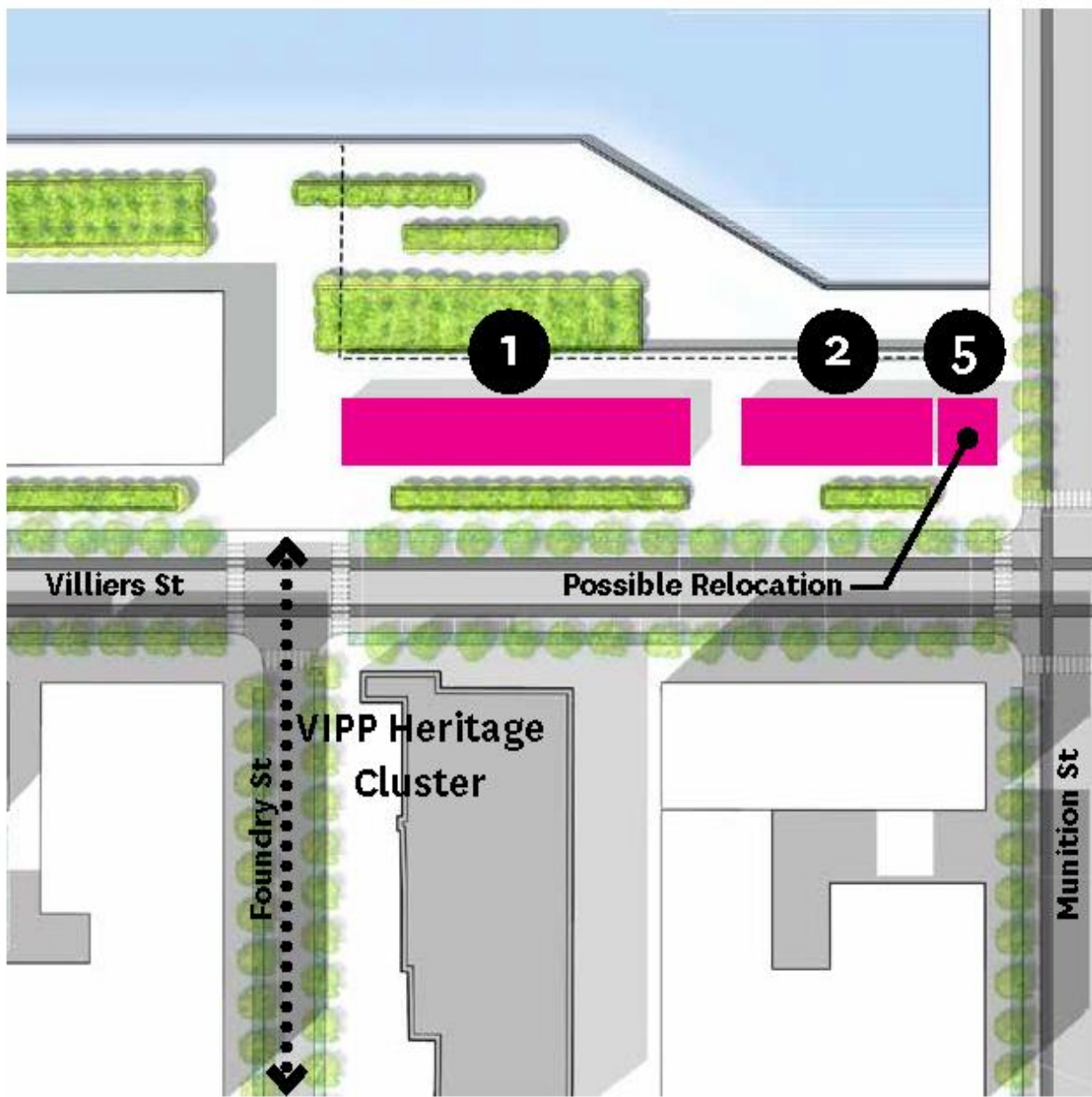
Current Conditions

5

Dry Dock Building




Design Issues




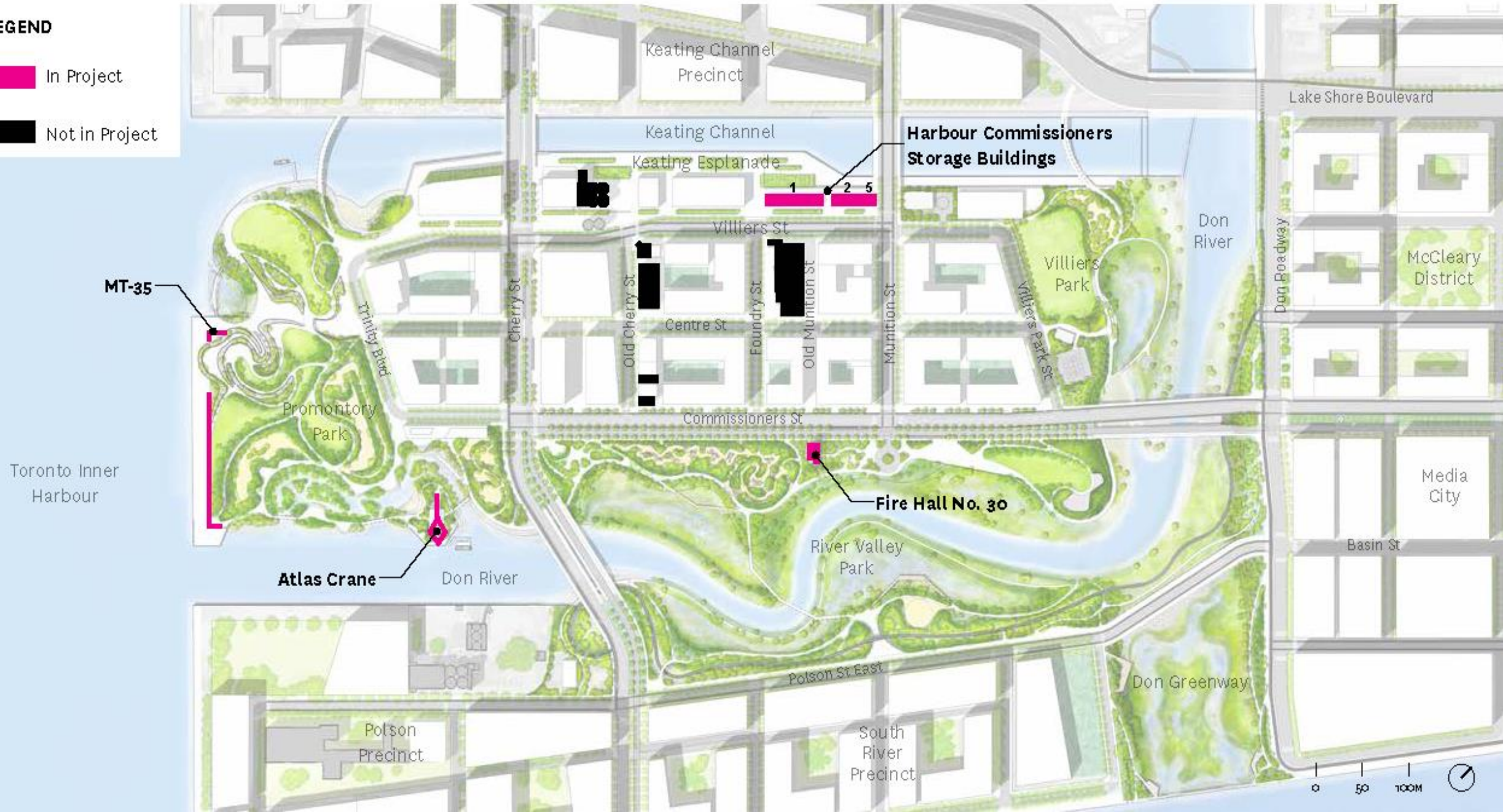
- Flood Protection + Elevation at Buildings
- Relocation of Building #5
- Dock Wall Reconstruction for Flood Conveyance at Dock Walls

Current Design

LEGEND

 In Project

 Not in Project



Port Lands Flood Protection and Enabling Infrastructure Roads and Municipal Infrastructure

SAC # 3 August 21, 2018

Prepared by WSP with files from DTAH

Network of Streets



URBAN

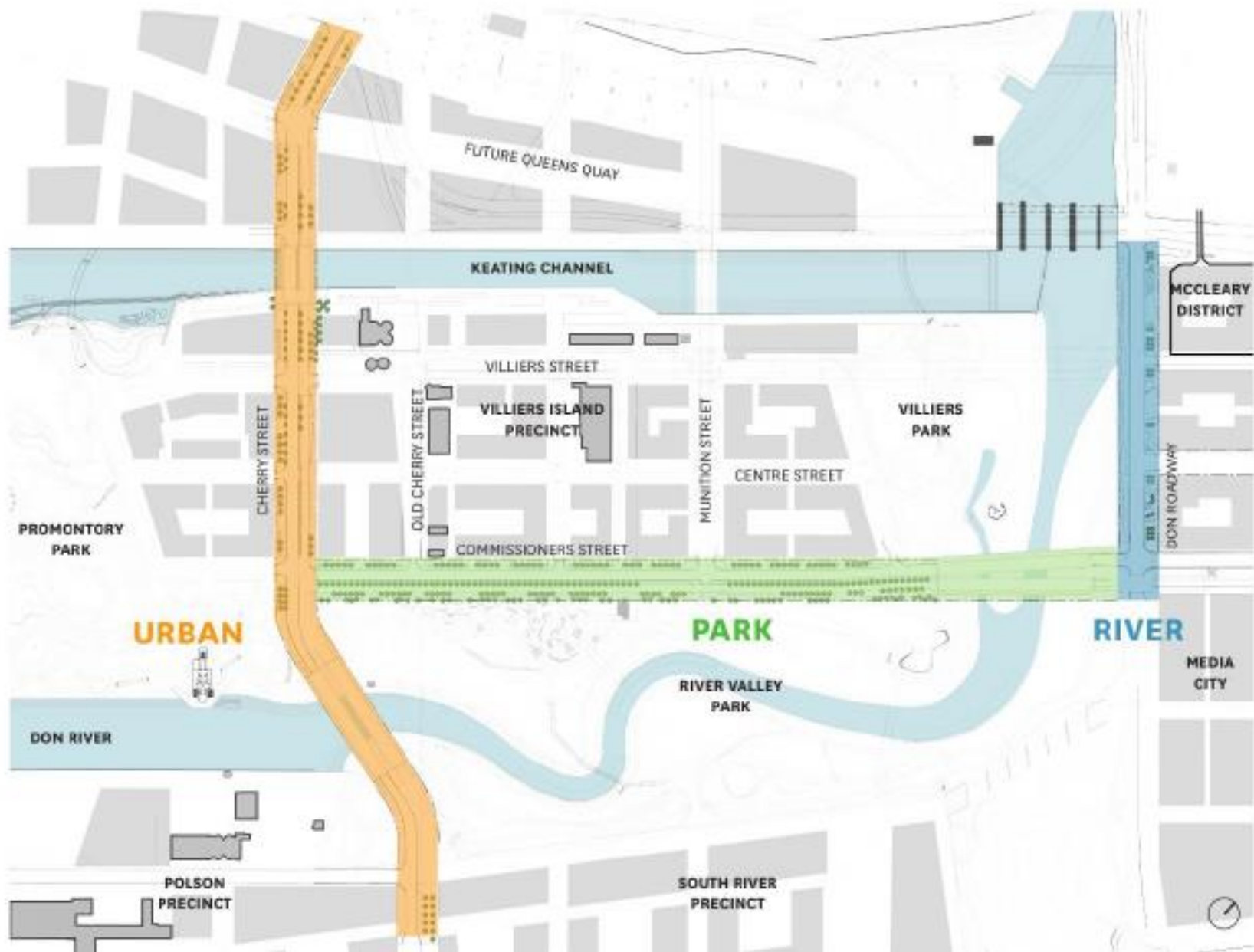


PARK



RIVER

Street Identities



Design Vision

New Cherry Street

Urban Identity

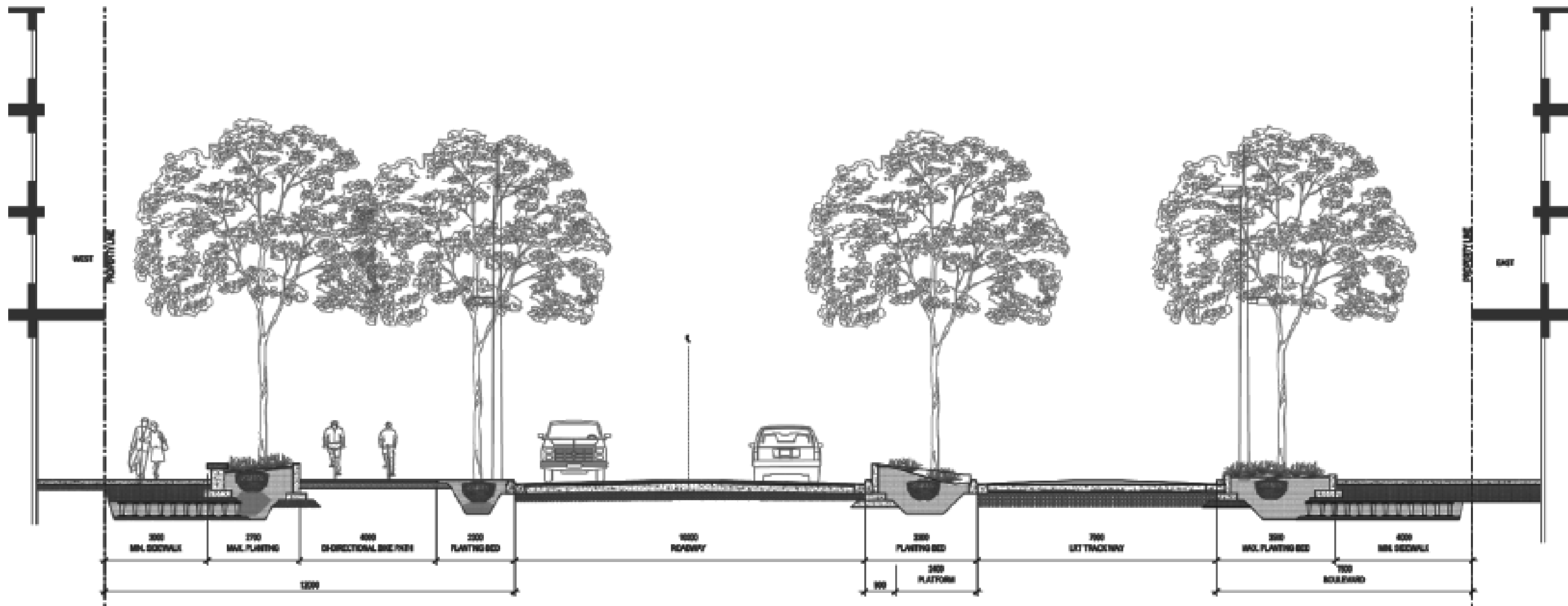
- Extension of the City into the Port Lands
- Curated and formalized hardscape and softscape to respond to urban character
- Variable planting and pedestrian clearway width to suit surrounding uses
- Incorporate shade tolerant planting
- Group and shape planting to create varying scales and experiences through the street
- Create sequences of exterior rooms

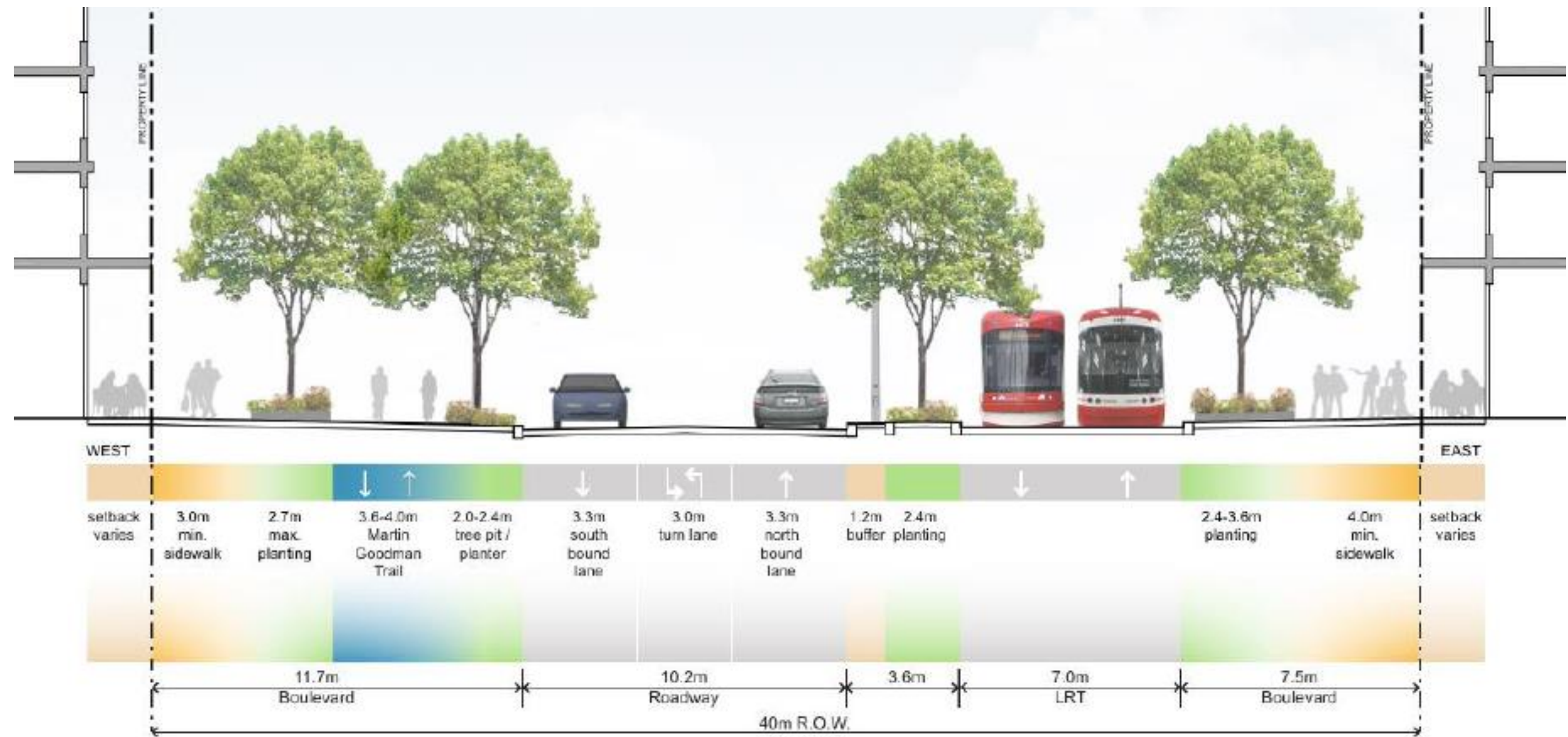


Design Approval Schedule

Milestone	Complete By
90% Cherry Street Design Submission	October 24, 2018
Review by City of Toronto and Approval Agencies	November 21, 2018
Construction Commencement	Spring 2019

Cherry Street Cross Section

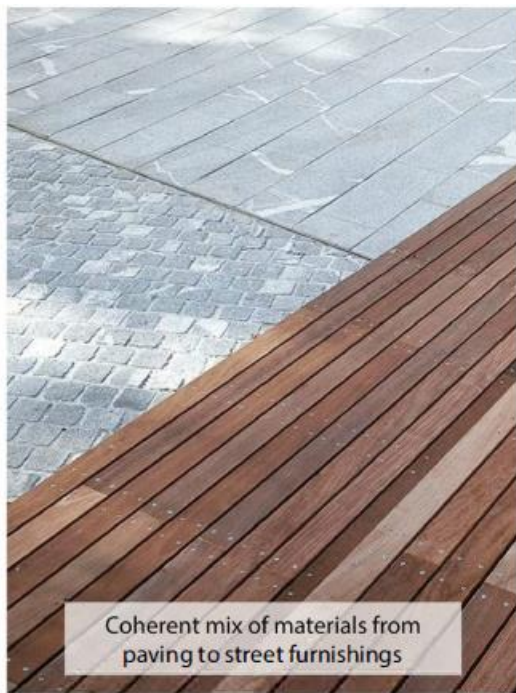




Public Realm

Public Realm Concept for New Cherry Street





Community Consultation #2

Feedback on Cycle Tracks

Separation of cyclists from traffic

- Physical barrier seen as most important
- Higher barriers (e.g. planters) prioritized, followed by curbs/medians and lastly elevation
- *People noted it's important that high planters don't obstruct visibility*

Separation of cyclists from pedestrians

- Physical barrier preferred
- *Consider wheelchair access if using curbs or planters*
- People are open to alternatives in the event of space and cost constraints
- Combination of visual cues (texture, colour, signage) preferred to account for weather and different user needs
- Pavement markers – would like both separating lines and markers
- *Consider maintenance/longevity*

Regulating speed within cycling zones

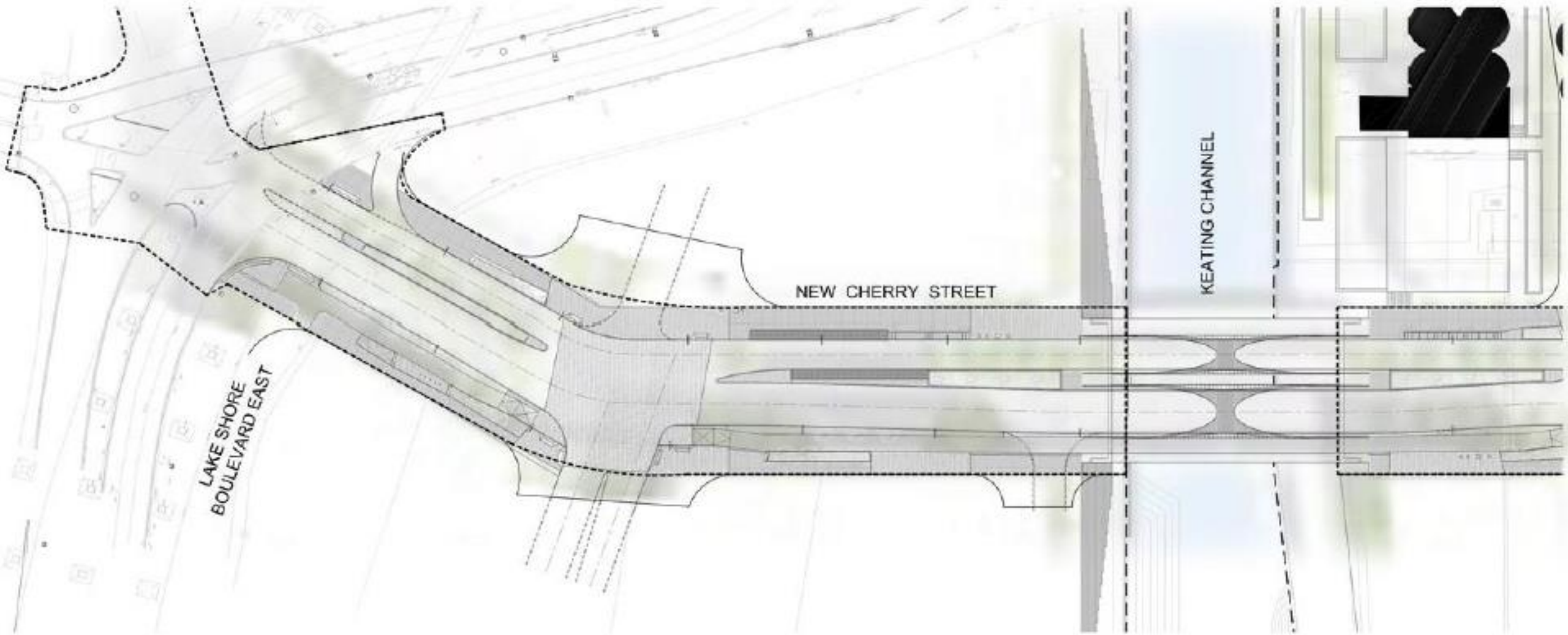
- *People recommend separating slow and fast cyclists*

Transition zones

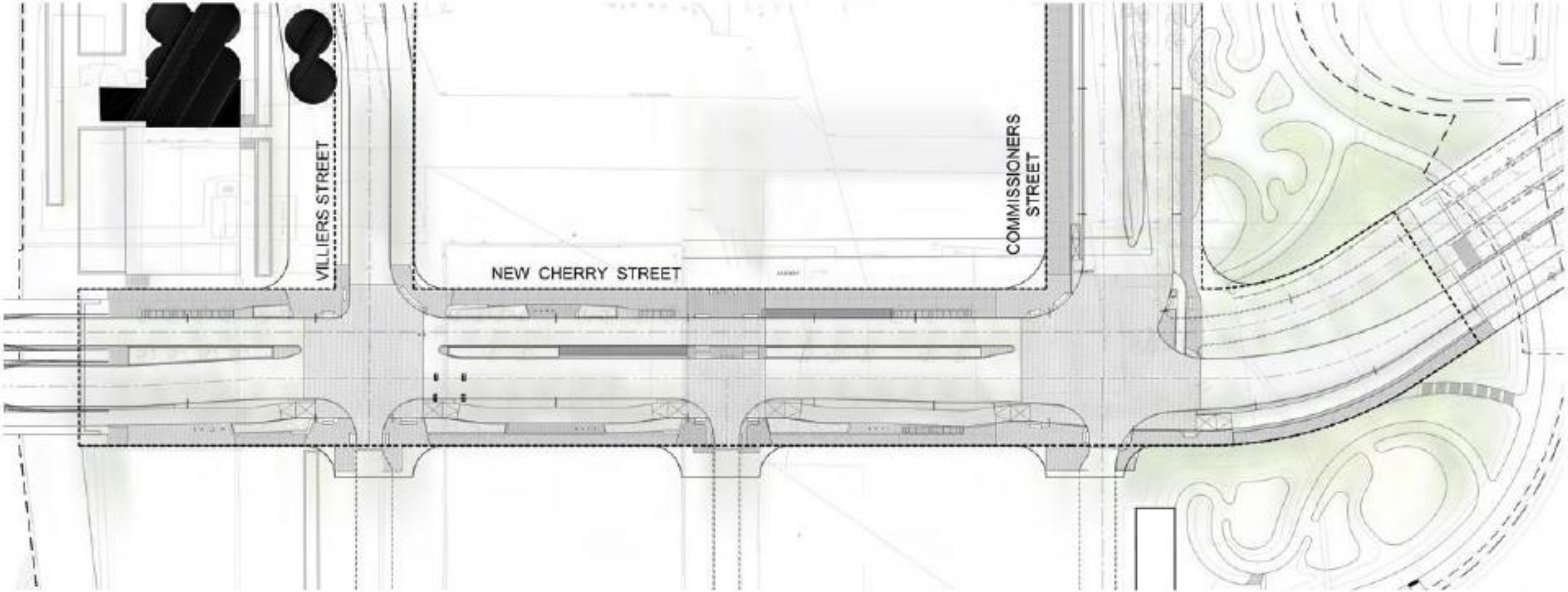
- *People noted that textured surfaces should be limited on cycling paths*
- *People asked for cues that are consistent with treatments elsewhere in the city*
- *Colour is preferred over texture, though many people note that neither is clear enough in the precedent images shown*

Cherry Street Design

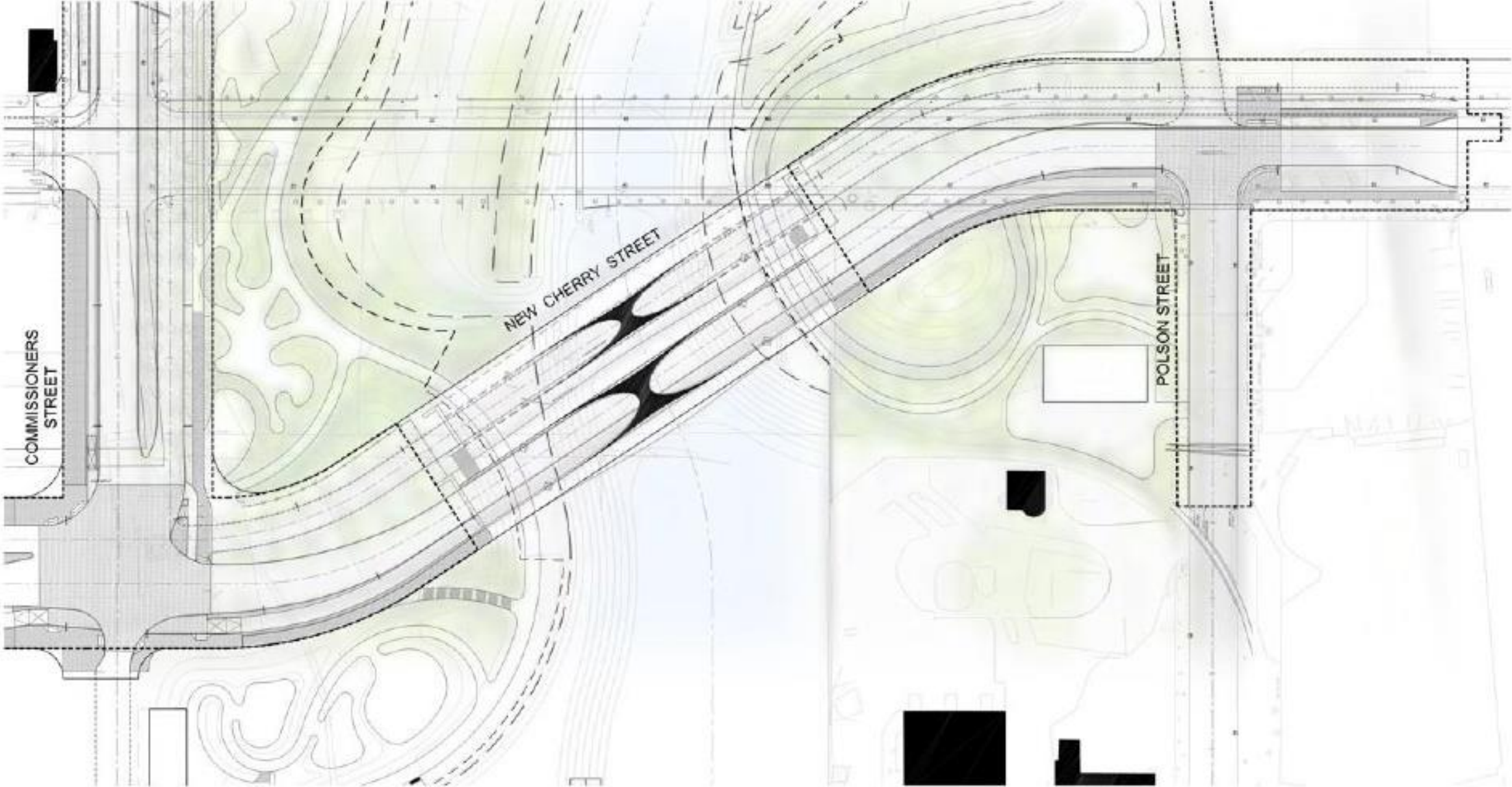
Cherry Street from Lake Shore to Keating Channel



Cherry Street from Keating Channel to Commissioners Street

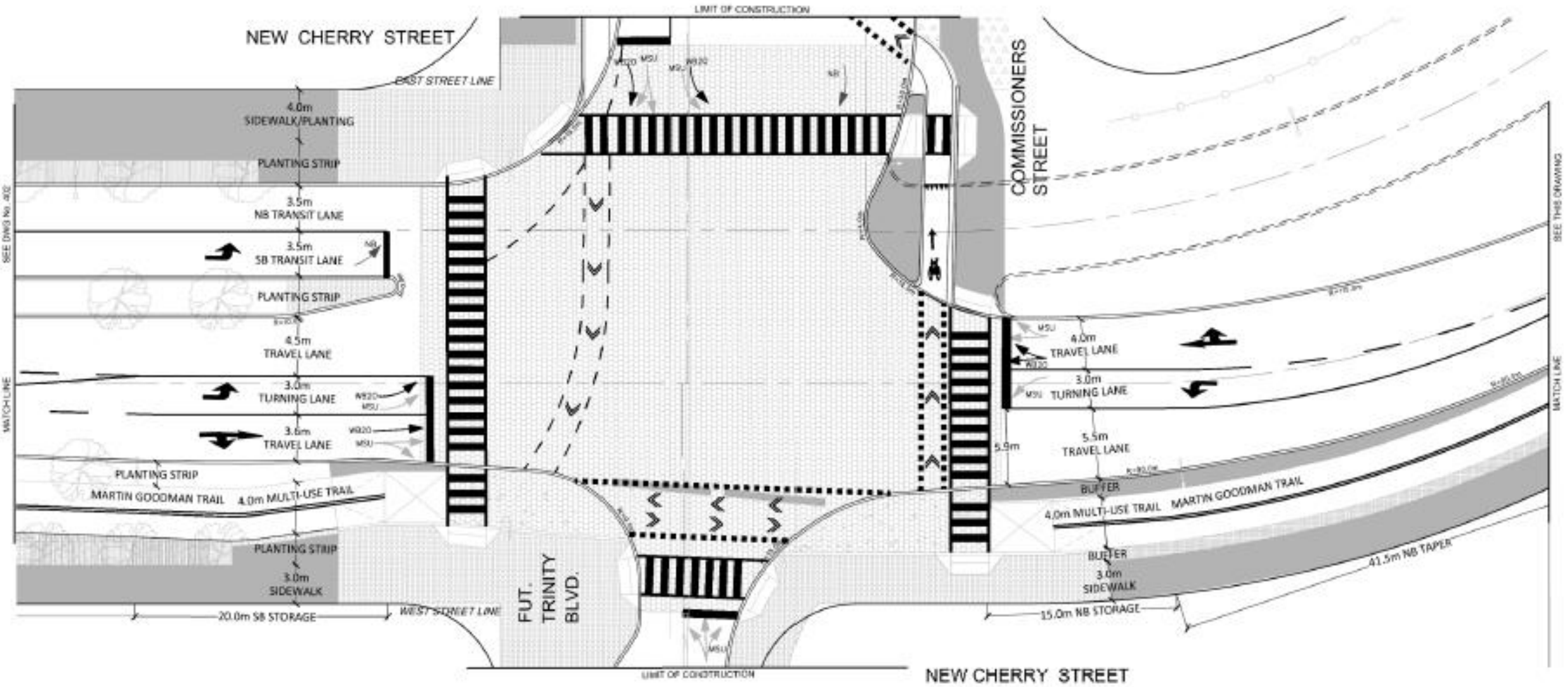


Cherry Street from Commissioners to Polson Street

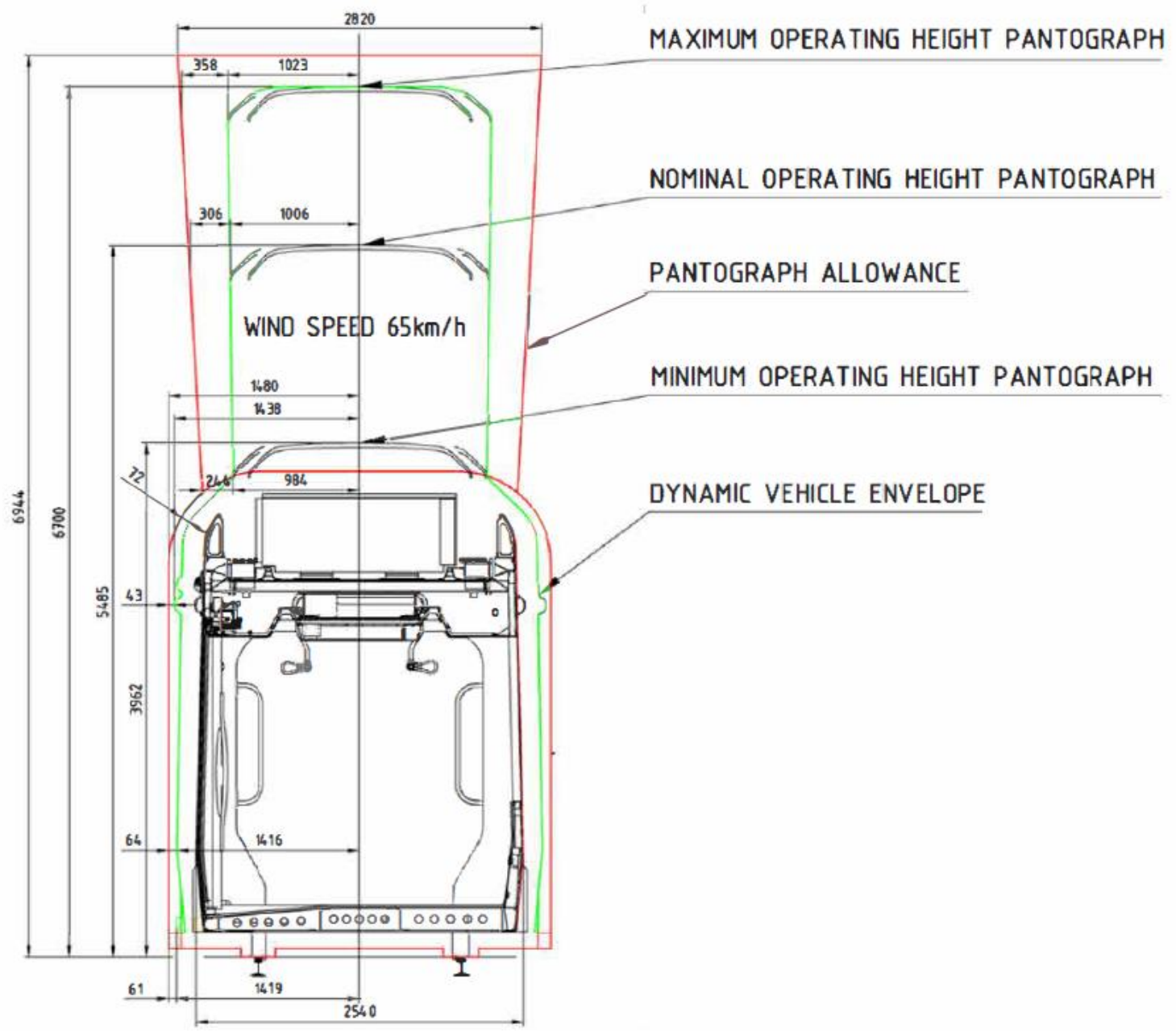


Intersection of Cherry and Commissioners Streets

Intersection: Cherry Street and Commissioners Street



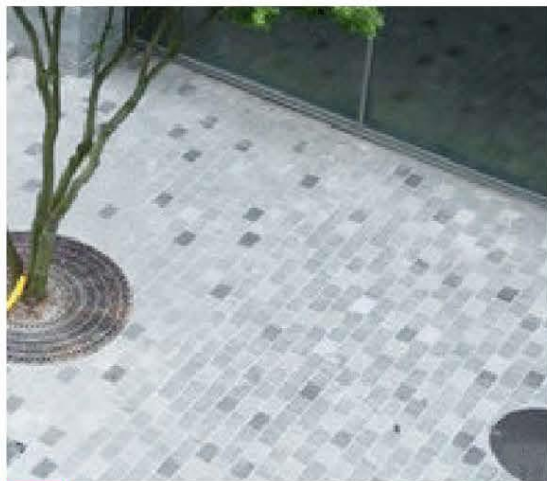
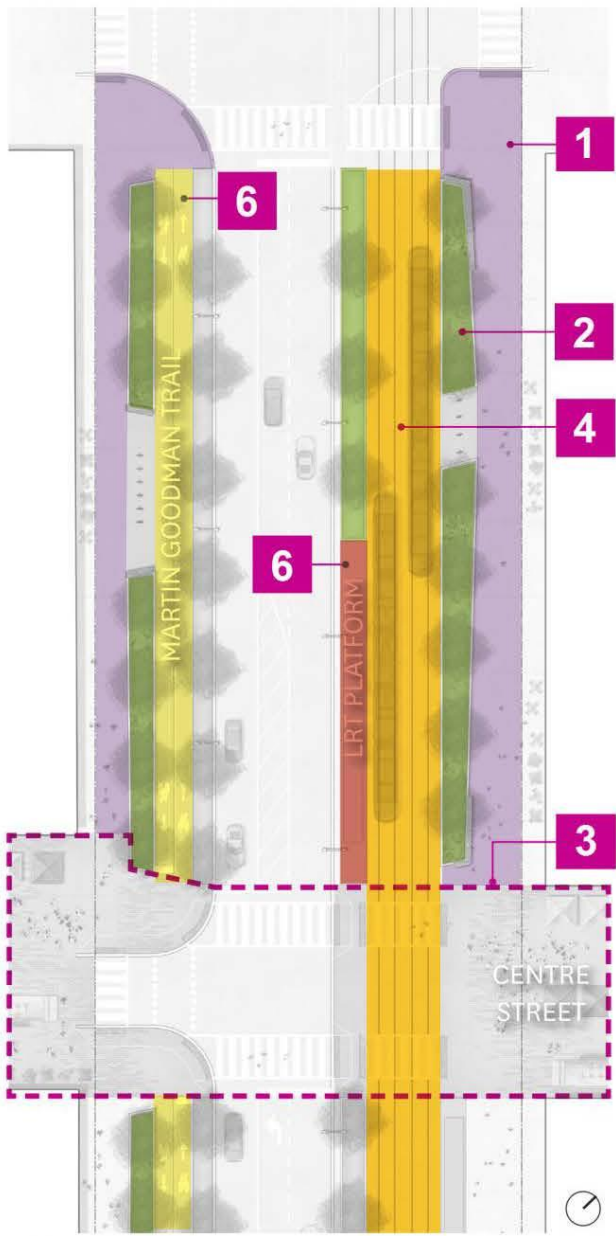
Cherry Street Rail Underpass



Potential Innovations

Street Design Best Practices + Innovation Strategies

NEW CHERRY STREET



1 High Albedo Pavements



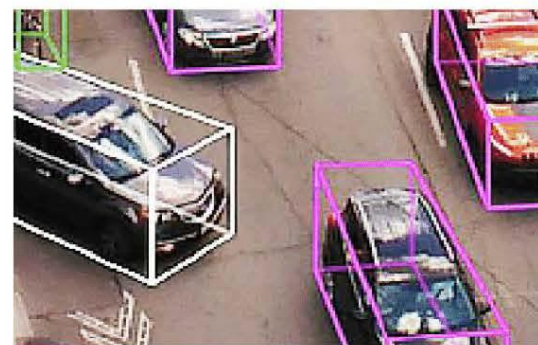
2 Landscape-Driven LID Approach



3 Pedestrian First - Enhanced Pavement



4 Flex Zones (closure of Bus Lane for programmed use)



5 Street Engineering Infrastructure

- Future-proofing Electrical/Data Conduit Capacity
- Space Reserved for District Energy
- Adaptable Signal Technology
- Data Collection/Sensing for Adaptive Planning
- Smart Poles



6 Snow-melt Bikeways + Pavement

Smart Systems



- Traffic flow monitoring
- Traffic light control based on traffic intensity
- Automatic accident detection



- Determining parking lot load
- Finding vacant parking lots in real time
- Individual visitor habits



Energy Reduction



Solar Panel



LED



Electric Charging



Questions for Consideration

#1 - Do you feel the proposed design preserves the important aspects of the heritage building or structures in the project area? What aspects do you feel are most important to preserve?

#2 - Do you feel the current design for Cherry Street addresses your previous request to consider the clear delineation of space? Is there any user group (pedestrian, cyclist, transit rider, driver) you feel is not well served by the current design? Why?